

THE EDUCATION
OF DULL
CHILDREN
at the primary stage



CHESHIRE EDUCATION COMMITTEE

Dull Children

The definition of "dull" used by the Cheshire Education Committee refers to children whose IQ, at age nine plus, is eighty-five or less, but are not ineducable. Such children are considered to be in need of carefully devised educational treatment within the framework of the existing Primary school system.

Dullness in a child is often accompanied by other disabilities: he may be suffering from emotional disturbance, from a physical defect (such as poor vision or hearing), or he may come from a home where standards of personal relationship and social behaviour are low. All these factors are taken into account in the methods of teaching suggested in this book.

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THE EDUCATION
OF DULL CHILDREN
AT THE PRIMARY STAGE

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Cheshire
Education Committee



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FOREWORD

THE Cheshire Education Committee each year meets the Head Teachers of its Primary Schools for a One-day Conference on current educational problems. At the 1951 Conference it was agreed that the problem of the education of dull children was one of considerable urgency. As a result, a Joint Committee was set up consisting of members of the County Education Committee, Primary School Head Teachers and members of the Authority's Advisory Staff, to investigate the educational needs of dull children at the Primary stage and to submit proposals for meeting these needs. This book is the result of the work of that Joint Committee.

In looking at the suggestions in this book, readers outside Cheshire may wish to know the general policy of the Cheshire Authority in dealing with dull children. This is, of course, dealt with in the Authority's Development Plan. Briefly, it may be summarised as follows:

Children are considered to be dull if they are in the I.Q. range of 55/85. For a variety of reasons it is not proposed to establish special Day Schools or Day Classes for these children. They will attend the normal Primary and Secondary Modern Schools maintained by the Authority, the only exceptions being children who may suffer from some further handicap, for example, because they possess delinquent tendencies, or come from unsatisfactory homes. It may be desirable that these children should be taken out of their homes and be educated in Boarding Schools. For this purpose, the Authority has a Boarding School for such children and is providing a second.

One important result of the policy of educating dull children in normal Day Schools is to throw upon the Head and Assistant Teachers of these schools important responsibilities. It is in order to assist teachers to meet these responsibilities that the Joint Committee was set up. It has been pleasing to note that the teachers in Cheshire schools are so whole-heartedly behind this policy and have given overwhelming approval to the suggestions contained in this book.

In addition to the need for help and guidance for experienced teachers there is the problem of new teachers fresh from Training

MEMBERS OF JOINT COMMITTEE

THIS book has been prepared by a Joint Committee set up by the Cheshire Education Committee, consisting of members of the Primary Education Sub-Committee, Head Teachers of Primary Schools, the Director of Education, and members of the Authority's Advisory Staff.

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Chapter I

GENERAL INTRODUCTION

THIS book is intended to assist teachers in providing adequately for the needs of dull children at the Primary Stage of their education. It deals solely with children who are innately dull, and does not attempt to cover the problem of educating children who may be backward.

I. Definitions

A. Dullness

It is necessary to define which children are to be considered "dull" and in need of special educational treatment. There is a very small group of children of such low intelligence that they are unable to profit by education. These are defined as ineducable and are ascertained as such by the County School Medical Officer. This book is not concerned with ineducable children. Apart from the ineducable children there is another group whose intelligence is so much lower than average they are unable to respond to normal educational treatment. These children are classified as "educationally sub-normal" and they are also ascertained as such by the County School Medical Officer. The Medical Officer uses an individual test of intelligence and educationally sub-normal children have I.Q.s between 55 and 75 on such a test.

All children aged 9+ in Cheshire Primary Schools take the Moray House Junior Test of Intelligence. On the result of that Test any child who has an I.Q. of 85 or less is defined as "dull" and in need of special educational treatment. The attention of the County School Medical Officer is drawn to children who may be ineducable.

It will be seen therefore that the category of children defined in Cheshire as "dull" is greater than, and includes, the class defined by the Ministry of Education as "educationally sub-normal".

B. Backwardness

A child may be said to be backward if his standard of attainment is lower than his level of intelligence would justify. When a child's standard of attainment lags behind the Mental Age by one year, his degree of backwardness should be considered sufficiently severe to

warrant the provision of remedial treatment to help him to overcome it. In terms of quotient, a child should be considered sufficiently backward to justify remedial treatment if his Intelligence Quotient exceeds his English or his Arithmetic Quotient by 10 points. Children who are above average in intelligence may be backward in their standards of attainment.

II. Special Day Schools and Day Classes

It should perhaps be made clear at the outset that the Cheshire Education Committee is not in favour of the establishment of special day schools or day classes for the education of dull children. They do not consider that the liberal aims of modern education, with its emphasis upon the development of total personality rather than upon limited training in certain skills, can adequately be met in special schools or classes, which provide artificial social conditions even more remote from the ordinary world than the normal school. In addition, they feel that grave emotional conflicts may be set up in any children required to attend such schools. Social disapproval attaches to these schools, which are already stigmatised as "silly" schools. Children are not necessarily less sensitive emotionally because they are mentally dull, and a feeling of inferiority, probably already aroused in a young child through a consciousness of his own mental inadequacy, may be exaggerated by his segregation in a school or class reserved for the dull.

Special educational treatment for physically handicapped children in special schools does not usually present the same difficulties, since a physical handicap may be regarded as a misfortune worthy of sympathy; but attached to a mental disability is still the sense of personal responsibility often accepted by those afflicted. Feelings of guilt and of inferiority may be deepened by segregation in special day schools or classes, and the pupil may consequently seek compensation in bad behaviour or even delinquency. The fact that it would be necessary to establish these schools or classes in the midst of any community in which the children attending them lived would only tend to throw into stronger contrast their own deficiencies, and strengthen their conviction of personal inferiority.

III. Special Residential Schools

There are, however, some dull children for whom education in an ordinary school would be impracticable or inadequate. They

include those who, as well as being dull (i.e. possessing Intelligence Quotients of 85 or less):

- (a) come from homes where the conditions tend to counteract any special educational treatment they might receive at a normal day school;
- (b) are of such habits or behaviour that their presence at school has a bad effect upon the other children;
- (c) show delinquent tendencies.

The best solution for such children would appear to be to provide them with special educational treatment in an appropriate residential school. It might seem at first sight that such a school would possess all the disadvantages of the special day school or class to an even greater degree. It should be borne in mind, however, that these children constitute a social problem. If some special action were not taken to withdraw them from an environment which might be aggravating their emotional distress or mental disability, and provide for them an environment in which they might find personal satisfaction and the opportunity of developing to the utmost whatever skills they possess, they might eventually arrive at a school for maladjusted pupils, or even an approved school. Through methods based upon a thorough insight into their educational and emotional needs they may be taught to adapt themselves to the conditions of life, and may be assisted to become self-reliant.

IV. Size of the Problem

An analysis of the results obtained from year to year by Cheshire children in the Moray House Intelligence Tests shows that about 15 per cent have Intelligence Quotients of 85 or less.

Assuming that there are approximately ten thousand children in each age-group, it may be anticipated that one thousand five hundred of these will be dull.

On this basis it normally would be expected that in a single-stream primary school, with classes of forty children, there would be approximately six dull children in each class; while in a two-stream primary school, there would be approximately twelve dull children in each "B" Class. This generalisation cannot be applied rigidly to every school.

Investigation indicates that the distribution of intelligence in the population is not uniform throughout the County. There may be a comparatively low proportion of dull children in one Primary

school and a high proportion in another. The actual number of dull children in any Primary school may be ascertained by methods set out below.

V. The Specific Disabilities which affect the Education of Dull Children

The only factor which is common to all dull children, and which at the same time isolates them from all other children, is that of low intelligence, and it is this factor which will chiefly influence the methods that are to be employed in the social training of these children. It is true that other factors will present themselves for consideration; as these, however, are analysed it will be seen that they are not peculiar to the dull, but may be common to children of other ranges of intelligence. Because of their low level of intelligence, dull children will:

- (i) be slow to apprehend and to learn;
- (ii) possess limited powers of independence and initiative;
- (iii) lack (or easily lose) self-confidence;
- (iv) find it difficult to adapt themselves to changing situations and strange people;
- (v) show little power for original thought and action, but a tendency to mimic the example and follow the lead of others;
- (vi) have little to contribute; will "take" rather than "give";
- (vii) possess only a short-lived power of concentration on any single activity.

These disabilities may be aggravated in any dull child by one or more of the following factors:

A. Emotional

As well as being dull, he may be suffering from emotional disturbance arising from a sense of failure in certain directions, from an unstable temperament, or from conflicts in an unstable home. His self-confidence may be further undermined by the unsympathetic attitude of impatient or uninterested adults and children. Children who are unusually aggressive or withdrawn may be suspected of suffering from emotional instability.

B. Physical

As well as being dull, he may be suffering from some physical disability. This may in itself further undermine his self-confidence.

It may (for example, if it consists of defective vision or defective hearing) cause him to be slower in apprehending and in learning than even his low level of intelligence would warrant; it may prevent him from finding compensation for his mental disability in some physical accomplishment; it may even cause him to be a subject of scorn. It may consist of a lack of muscular co-ordination and control and, in this respect, may be a concomitant of his mental disability. The child may be subject to chronic ill-health further retarding his educational progress.

C. Environmental

As well as being dull, the child may come from a home in which the standards of taste, social behaviour, and personal relationship are low, and in which the standards encouraged by the school may be despised.

In these circumstances, it may be difficult to begin training the child in the standards of social behaviour required at school, or to convince him of their need. In any case, the opportunities for practising out of school the standards taught in school may be limited, and the child may even experience an acute conflict of loyalties between home and school.

Irregular attendance may be one of the symptoms of bad social attitudes encouraged at home or of the child's conflicting loyalties between home and school.

VI. The Detection of Dull Children

A. At the Infant Stage

The lower a child's Intelligence Quotient, the later he will be in developing the requisite intellectual ability to enable him to acquire skill in reading and number. For example, a child with an Intelligence Quotient of 75 will reach a Mental Age of 5 years when he is almost $6\frac{1}{4}$ years of age chronologically. This illustrates the need for an early and reliable testing of intelligence. The surest method of detecting innate dullness is by using an individual test such as the Terman-Merrill Revision of the Stanford-Binet Test. Such a test is impracticable for general use in schools because it must be set by a trained test administrator and because it takes up more time than can be afforded normally in school. Other methods may be used, e.g. teachers may maintain a careful and systematic observation of the physical and mental development of the children in their care. Not

all children who appear dull are indeed dull; and in endeavouring to find out at the infant stage which of them are dull, teachers will be on the alert to distinguish between those who are innately dull and those who are only apparently dull because of emotional maladjustment. A knowledge of the home background of each child is desirable and will help teachers to decide whether the apparent dullness of a child may be caused, for example, by emotional conflict at home. Inertia, dependence, and lack of initiative, for example, which may often be accepted as symptoms of dullness, may be induced in a child by over-protective parents at home.

The teacher should have the children under close observation during the first year at school so that she may gradually collect the evidence that will later enable her to differentiate between them on the basis of their varying rates of mental development. The following are some of the symptoms of dullness:

- (i) Backwardness in speech and vocabulary.
- (ii) General apathy, diffidence, and lack of co-operation.
- (iii) Lack of persistence, initiative, concentration, observation, and self-reliance.
- (iv) Presence of destructiveness, restlessness, instability.
- (v) Lack of muscular control.
- (vi) Poor response to attractive pictures, books, and apparatus, etc.
- (vii) Lack of discrimination in sorting and matching games.

Where poor speech and vocabulary are accompanied by a number of these symptoms, a child may reasonably be suspected of being dull. One symptom alone should not be considered sufficient evidence. Home environment may affect a child in speech and vocabulary, emotional disturbance may seriously affect his reactions to situations in school. Again, physical defects of vision, hearing, speech, and motor control may be the causes of slow development.

It must be emphasised, therefore, that the detection of dullness by reference to the above list can be trusted only when due allowance has been made for physical and emotional abnormalities, and then only when several traits occur together and are chronic.

Most teachers in infant schools keep careful and comprehensive records of children in their care, and this practice is commendable. The form of these records varies from school to school, but it is felt that ideally they should include:

- (i) age of child and date of admission to school;
- (ii) home background;

- (iii) development of speech and content of vocabulary;
- (iv) any physical defect actual or suspected—vision, hearing, speech;
- (v) attitude to other children and adults; degree of co-operation;
- (vi) emotional attitudes;
- (vii) choice of activity;
- (viii) interest in books, pictures, number, and some estimate of attainment.

The record should recognise the comparatively rapid pace of the all-round development of the normal child by careful dating of each entry so that the dullness of the dull becomes apparent by sharp contrast with the normal and bright children. The systematic compilation of such records will assist the teacher to determine whether a child is innately dull. The picture is revealed slowly. The class teacher is in the best position to see it; her view will be clearer and her judgment surer as time goes on.

When a child moves to another class, or when the teacher of his class is replaced, the cumulative record should be handed on. Otherwise each new teacher must start afresh, losing valuable time, and probably setting unsuitable work in the meantime.

Towards the end of the infant stage, the divergence between the attainments of bright, average, and dull children will have widened appreciably, and the record of the dull child will begin to indicate clearly his slower rate of learning and his more limited progress.

B. At the Beginning of the Junior Stage, when the Children are 7+

It is essential that all the data collected by Infant teachers about a dull child should be studied and used by the Junior teachers. The Infant teachers have had at least two years' experience with the child, and their assessment of his attainments and diagnosis of his difficulties may be considered in the main reliable. No further time should be wasted in detecting what has already been ascertained. If dull children are not provided with appropriate educational treatment, the mental ability they possess may deteriorate.

An Intelligence Quotient is a percentage expressing Mental Age in comparison with Chronological Age. A 10-year-old child with a mental age of 10 years has an Intelligence Quotient of 100; if his mental age is 12 years then his Intelligence Quotient is 120; and if his mental age is 7 years, his Intelligence Quotient is only 70.

The work of which a child is capable will depend upon his Mental Age. Sufficient experiments have been done to establish with a fair degree of accuracy the type and difficulty of work suited to varying Mental Ages.

The accompanying table shows for children aged 7.5 years chronologically (which is the average age of transfer to a Junior Department):

- (a) their varying Mental Ages, according to their Intelligence Quotients;
- (b) the appropriate work in Reading suitable to each Mental Age;
- (c) the appropriate work in Number suitable to each Mental Age.

FOR CHILDREN WITH A CHRONOLOGICAL AGE OF 7.5 YEARS

I.Q. of	Mental Age will be	Appropriate Work in Reading to suit this Mental Age	Appropriate Work in Number to suit this Mental Age
60	4.5	Picture matching. Pre-reading activities	Matching, sorting shapes and colours. Playing with sand and water.
65	4.9	Old Lob, and other pictures. The names of characters to follow in primers	Sorting into big and little. Bead-threading to pattern. Recognition of numbers and counting to 10. Number concept to 10. Shopping with pennies.
70	5.3	Compilation of sentences using known words—all “Look and Say”	Addition and Decomposition of Numbers 1-5.
75	5.6	Introductory Primer—More “Look and Say”. Beacon Introductory. Beacon Book I, Happy Venture Book I	Addition and subtraction to 10. Recognition of numbers to 20. Water and sand play. Money to 1s. in pennies. Measuring in yards. Experience with weights and measures.
80	6.0	More “Look and Say” words; simple word building; phonics introduced	Number bonds to 10 to be known—later to 20. Tens and units without carrying. Addition and subtraction to 10.
85	6.4	Beacon Book II. Happy Venture Book II	Recognition of $\frac{1}{2}$ d., 1d., 6d., 1s. Recognition of bed-time, noon, etc. Matching a quantity with a given quantity. Use of yard steels. Giving change to 1s. 6d. and 2s.
90	6.7		Introduction of nought.

I.Q. of	Mental Age will be	Appropriate Work in Reading to suit this Mental Age	Appropriate Work in Number to suit this Mental Age
95	7.1	All phonics completed. Increasing Vocabulary	Addition and subtraction to 20 (including tens and units by equal addition). Place values to 100.
100	7.5	Beacon Books III and IV Happy Venture Books III and IV	Measuring in half-inches. Use of $\frac{1}{4}$ weights. Use of gill measure.
105	7.9		Time—"quarter to", "quarter past", and "half past". Perhaps addition and subtraction of shillings and pence to 5s.
110	8.2	Beacon Book V	4 rules in number inside multiplication tables. 4 rules in shillings, pence, half-pence, and farthings. Measuring in yards, feet and inches. Use of bathroom scales. Counting in five minutes round the clock. Weighing parcels, etc.
115	8.6	Beacon Book VI Literacy established	
120	9.2	Reading widely and voluntarily, for pleasure, books with a vocabulary and content appropriate for children of 9+	Introducing long multiplication of Number. 4 rules inside tables of £ s. d., feet, inches; lb., ozs.; gal- lons, quarts, pints. Time-telling and simple exercises involving time

It should be understood that specific series of reading-books are mentioned only for convenience, and not because these are recommended to the exclusion of others. The Table itself is not intended to lay down the standards in Reading and Number that should invariably be expected of all children of the Mental Ages involved. For example, the standard of attainment reached by a child may be affected by his emotional development.

It is possible at this age to test for intelligence by means of a standardised test, although for children of this age a non-verbal test will be more effective than a verbal test. An Intelligence Quotient cannot be assessed by means of a verbal Intelligence Test unless the child concerned can read with comprehension. It is suggested that the best type of test is one in which the instructions are given orally in a conversational manner item by item. This enables the tester to control the child's attention. Intimate direction of the child's mental

activity is important where there is emotional or intellectual immaturity. Dull and maladjusted children are able to attend and concentrate voluntarily much less than normal children.

Quite incorrect results can be obtained if attention and co-operation are not ensured during testing. Most teachers of young children become adept at engaging the co-operation of children, and they approach the whole problem of intelligence testing with tact and kindness. A useful Intelligence Test of the non-verbal type is the Moray House Picture Intelligence Test.

A test such as this will give a broad indication of a child's level of intelligence, but it must not be assumed that any score will necessarily correlate highly with that obtained from a purely verbal test in which other factors may operate.

Some additional help in detecting a dull child at the beginning of the junior stage may be gained by examining his drawings. At this stage, a child who draws a man with arms extending from the head, or with three fingers to the hand and incomplete features, may be suspected of being dull, as such drawings are usually characteristic of the pre-school child.

To sum up, it is suggested that when children are 7+, dullness and backwardness may be detected. The differentiation of those who are innately dull from those who are backward may be made by means of a non-verbal Intelligence Test, such as the M.H. Picture Test, which should give a fairly accurate indication of the level of intelligence.

Attainment in Reading may also be measured on a standardised scale. Schonell's Test may be employed for this purpose where Happy Venture Readers are used, and the Beacon Diagnostic Tests where Beacon Readers are used. Vernon's Revised Version of Burt's Test might not prove satisfactory for children at the very early stages of their reading.

Thus at the beginning of the junior stage the Infant teacher's record of progress, the M.H. Picture Intelligence Test, and a Reading Test should together form a fair guide to a child's intelligence. The most important of these is the Infant teacher's record, but the others are useful pointers.

If an Intelligence Test is used, the score or quotient given should be interpreted strictly in accordance with the manual accompanying the test. The definition of dull children contained at the beginning of this book, i.e. that they consist of those with Intelligence

Quotients of 85 or less, is based upon the Moray House Scale.

During the first two years in the junior school, when children are 7+ and 8+ years of age, teachers should continue to compile for each child an individual record, which should include:

(a) standard of work being completed satisfactorily (by reference to the previous table an approximate Mental Age may be deduced);

(b) records of Attainment in Reading on a standardised Word-Reading Test;

(c) results of a non-verbal Intelligence Test;

(d) some reference to the child's attitude to the learning process (this should include remarks on the effects of failure in his school on the child's self-confidence, the child's persistence of effort, powers of concentration, etc.).

C. At the later Junior Stage, when the Children are 9+ years of age

At the age of 9+, each child in a Cheshire Primary School is tested by means of the three Moray House Junior Tests of Arithmetic, English, and General Intelligence. The results of these tests should be sufficient to remove any remaining doubts about the dullness of a particular child. An Intelligence Quotient below 85 denotes dullness unless the pupil was prevented by poor health or emotional disturbance from doing himself justice in the examination. Hitherto, owing to inadequate observation and records, a child may have been wrongly suspected of dullness; such cases should, however, be rare. The Moray House Tests and subsequent Attainment in Reading and Mechanical Arithmetic enable the teacher to detect accurately: (a) when a child is *innately dull*; (b) when he is *backward* in Reading and/or Arithmetic.

Chapter II

SOCIAL TRAINING

I. Introduction

THE aim of education is to prepare children to take their places ultimately in society as workers, citizens, home-makers and parents. Social training, as an integral part of education, must contribute towards that end. The schools at the secondary stage should provide a more direct form of social training to fit children to meet the demands that will be made upon them in each of these three spheres; but while social training at the primary stage will be of a more diffuse and general character, it will be effective only so far as it is planned to meet the immediate needs of the child as well as his ultimate needs when he leaves school. Social training at the primary stage should therefore meet the needs of each child while he is passing through this stage, provide a preparation for training at the secondary stage, and lay the foundations for the ultimate assumption of responsible citizenship. As far as social training at the primary stage is concerned, it will be necessary not only to determine the attitudes of mind and the social skills a child will eventually need in adult life, but also to decide what he should have already acquired by the time he proceeds to the secondary stage of his education.

The Education Act, 1944, rightly states that education should be designed to promote the spiritual, moral, mental, and physical development of each individual. Social training must be envisaged within that framework. It should not, therefore, be narrowly conceived as instruction in superficial good manners, such as saying "Please" and "Thank you" at the appropriate times, or standing aside to allow an older person right-of-way. Good manners, although essential, should be the outward and visible signs of a fundamental attitude of mind consisting of respect for one's fellow creatures, for the customs and institutions of society, and for oneself.

At the primary stage, the education of a child does not consist so much of adjustment to various school subjects as adjustment to moral and social problems. In this process, the different facets of a child's personality cannot be separated. Physical, intellectual, social, emotional, moral, and cultural sides interact and produce the whole;

skills and games, experiences in music, art, and drama, and all his contacts with his teachers and with other members of his class, contribute not only to his academic development, but to his moral, spiritual, and mental development at the same time. In fact, a child absorbs unconsciously much of what contributes towards his total development.

A child tends to reflect the moral and spiritual attitudes of the people with whom he lives. He is not likely to love or esteem those who show little feeling or affection for him. Where the relationship between teacher and pupil is based upon kindness, honesty, and consideration, then the relationship between pupil and pupil is likely to be sound. It is important that the tone of the school, its code of discipline, and the relationship between the various members of the staff, should have a spiritual foundation resting on Christian teaching.

The teaching of Christ embraces the twofold duty of man—his duty to God and his duty to his neighbour. These are closely integrated, and it is not possible to observe the one while ignoring the other. In this book, however, although the separation may be artificial, social training is considered as specifically embracing only duty to one's neighbour. The complementary question of duty to God is dealt with in the *Cheshire Agreed Syllabus of Religious Instruction* (University of London Press Ltd).

One point should be emphasised with regard to social training at any stage at school. It should not establish artificial or out-moded manners which the child will need to abandon when he leaves school. Children should be trained to acquire an acceptable standard of manners.

In addition, social training at school should be designed to increase a child's self-confidence by giving him the speech, bearing, and manners to enable him to mix on equal terms with other people of reasonably good standards of social behaviour. Children must also be prepared to accept responsibilities. While they are at school they can be prepared for the larger responsibilities they will have to face in adult life by being given smaller responsibilities, such as posting letters, taking messages from one class to another, acting as class or school librarians, etc.

II. Social Qualities desirable in all Members of Society

The following are some of the social qualities which are required in fully developed adults and which it will be necessary to develop

in all children, whether they are bright, average, or dull. Social training at the primary stage should be designed to contribute towards this development:

- (a) reverence for living things; (f) courage and loyalty;
- (b) kindness of attitude and (g) cleanliness and pride in action; personal appearance;
- (c) good manners; (h) clear speech;
- (d) honesty; (i) tolerance of other people;
- (e) responsibility and leadership; (j) ability to work hard.

A. Reverence for Living Things

One of the immediate aims of social training at the primary stage will be to impart to children a reverence for all living things. Such an attitude will be more readily instilled into them if it is already possessed by the teachers.

Reverence for human beings can be acquired through tales of greatness exemplifying the highest forms of human virtue, e.g. courage, self-sacrifice, devotion to duty.

Reverence for the beauty of the natural world will be acquired through the care of flowers, plants, and animals, both in and out of school. During nature talks, teachers should always endeavour to transmit to children a sincere feeling of wonder and amazement at the complexity of living organisms, the structure of plants, and the diverse forms of animal life.

Children should also become gradually conscious of the beauties of nature through the various branches of art, such as drawing, painting, modelling, literature, and the like.

B. Kindliness of Attitude and Action

Children will need to learn that "love" is in part kindness of thought and kindness of action. It will be necessary to give them definite training in consideration and thought for others. The following are suggested as some of the ways in which these might be achieved:

1. HOSPITALITY TO NEWCOMERS AND VISITORS

2. ENCOURAGING GENEROSITY

Sharing their possessions with other children.

Gifts and letters for sick children.

Working for Harvest Festivals and Relief Funds.

3. ENCOURAGING THOUGHT FOR OTHERS

Remind children to think out Christmas presents for parents.

Teach them to avoid making unnecessary work for other people, such as cleaners and caretakers.

Encourage them to care for weaker children. (Bullying should be discouraged.)

Children should be encouraged to look out for those who are normally left out of school and class activities, and make sure they are included.

4. KINDNESS TO ALL LIVING THINGS

5. TRAINING IN THE CARE OF PROPERTY

Children should be taught to take care of property, whether it belongs to themselves or to someone else, in such places as the cloakroom, classroom, on buses, in trains, etc.

They can be encouraged to practise kindness in thought and action by praise. They may sometimes be praised privately and individually, but there are occasions when praise might be offered publicly with two aims in view:

the satisfaction of the individual who has performed some kindly act;

to create in other children the desire to emulate those who have gained praise.

C. Good Manners

Children should be trained to realise that good manners are the outcome of thoughtfulness for others. It is important that, in their dealings with each other and with children, teachers themselves should set good examples of mannerly behaviour.

Some examples of the situations in which good manners are important, are given below:

1. HOW TO MEET PEOPLE COURTEOUSLY

Greeting teachers, parents, and visitors courteously.

Raising caps.

Receiving visitors. Any child seeing visitors on the school premises should offer to give them any assistance they may need and find for them the person they wish to see.

2. HOW TO SAY "PLEASE" AND "THANK YOU"

Few children know when to say "Please" and "Thank you". Opportunities can be found in school to train them in practising these courtesies. Children should be trained to express thanks in their own simple language, an artificial mode of expression should not be imposed upon them.

At all normal times, the practice of using the expressions "Please" and "Thank you" should be encouraged; especially between the teachers and the children, as well as between the children themselves.

3. THE NEED FOR CLEAR SPEECH

Even shy children should be taught that it is discourteous to speak so indistinctly that what they are saying cannot be clearly heard.

4. MANNERLY BEHAVIOUR IN MOVING ABOUT THE SCHOOL.

Children should be trained:

- to open doors for others, whether they are children or adults;
- to give others right-of-way;
- to knock at doors before entering rooms;
- to deliver messages courteously.

The importance of good manners out of school should be stressed.

5. TABLE MANNERS

Children should be taught good manners in eating and drinking and to behave courteously at table. They should not be discouraged from talking at table, but should be trained to converse quietly with their neighbours.

6. GOOD SPORTSMANSHIP

Children should be trained to:

- applaud good play by either side in a match;
- accept defeat with good grace;
- refrain from booing;
- meet visiting players and look after their needs;
- at the end of a match, see the visitors away before going home themselves.

D. Honesty

1. HONESTY OF ATTITUDE

Children should be trained that honesty implies they will always do what is right, even when their actions are not being observed.

2. OWNING UP TO WRONG-DOING

3. LOST PROPERTY AND FOUND PROPERTY

Children should be encouraged to surrender any lost property which they have found. This can be returned publicly to the rightful owner, and the child who has surrendered it can be praised.

Children should be encouraged to return to school any school property which they have accidentally or absent-mindedly taken home.

Teachers will engender an attitude of honesty if they convince the children they are always trusted.

E. Responsibility and Leadership

If society is to remain sound and progressive, its adult members must possess a ready willingness to accept responsibility and to assume leadership. One of the most important tasks of the Primary schools will be to develop these social qualities in children, and many opportunities for doing so will occur both in school generally and within the narrower limits of the classroom.

Children will only gradually learn to accept readily responsibilities as they arise; many may need to learn the necessity of obedience before they can appreciate the value of leadership.

1. ROUTINE TASKS

Children can be happily engaged in the hundred and one duties that must be carried out daily if the business of a school is to run smoothly, and it is by sharing actively and individually in these tasks that children will learn to acquire, among others, the qualities of responsibility and leadership. In so far as the children themselves undertake or participate in these duties, by so much will the life of the school be enriched.

The following are some of the routine duties that can be delegated to children:

The distribution and collection of attendance registers, and dinner registers.

The care of flowers, aquaria, and pets.

The distribution of milk and collection of empty bottles.

The distribution, collection, and supervision of games and physical training equipment, books, materials, etc.

Teachers should adopt, and impart to the children, the attitude that these tasks are themselves a vital and integral part of the life of the school and that those performing them are contributing a valuable form of social service to the school.

It is important that these duties should be widely shared, so that no child spends any undue amount of time away from normal lessons.

2. EXERCISE OF INITIATIVE

The exercise of responsibility on the part of children should not, however, be confined to routine and pre-ordained tasks. They should be encouraged to act on their own initiative in unforeseen circumstances. For example, they could rectify the neglect of someone else by turning off taps that have been left running, switching off lights in an empty room, restoring posters that may have slipped out of position on a classroom wall.

A child should be taught that when the teacher is called away from the classroom, he should set an example in leadership by proceeding quietly with his work rather than by exhorting others to apply themselves to theirs.

F. COURAGE AND LOYALTY

1. MORAL COURAGE

Children should be taught to admit wrong-doing, and to face the consequences.

They should learn how to apologise.

Tale-bearing should be discouraged. If a child has participated in some misdemeanour with a number of accomplices, he should be expected merely to admit his own share and to leave his companions to acknowledge theirs. It will be necessary to train children to have the moral courage always to do what they know to be right, and to resist joining a group of companions who may be contemplating or engaged in some misbehaviour.

2. PHYSICAL COURAGE

Children should be taught to display physical courage during games and physical training lessons, although teachers will need to

vary their method of approach according to the sensitivity of the children.

Children should learn to run the hazards and to take an occasional tumble without undue fuss.

3. GROUP LOYALTY

It is important that the members of any society should have a lively sense of group loyalty. The beginnings of this quality may be fostered in young children through their group activities during the early stages of their education, and may be developed through team organisations later in the primary stage.

A sense of loyalty to the group may be encouraged by inviting children, as a class or school, to work together for some project, e.g. contributing to some charity, presenting a play or concert to other children.

Children can also be taught to express their loyalty to the group to which they belong by taking a pride in their classroom and in ensuring that it is not only tidy but also attractive. This calls for leadership from the teacher. If the children see that she is proud of the classroom, they will tend to follow her example.

G. Cleanliness and Pride in Personal Appearance

The pride a child takes in his personal appearance and in his work is not only a measure of his self-confidence, but his self-confidence will be increased as this pride is fostered.

Children should be trained to be clean and tidy in every way. They should be taught to wash their hands and face thoroughly, and to rinse before using the towel; they should be trained in the care of their hair. It will be necessary to teach them how to look after their clothes, that their clothes should always be neat, becoming, and hygienic, and to dress suitably for each occasion.

Clean towels should always be available.

Correct use of the toilets should be taught from the beginning of the infant stage, and teaching should continue throughout the junior stage. Toilet rolls should be available in the lavatories.

Children should leave school in the afternoon neatly dressed; coats, if worn, should be buttoned up.

H. Clear Speech

It has already been explained that indistinct speech is a form of

courtesy. Speech is the chief medium of social intercourse; quality of speech is one of the main social hall-marks.

It is important that a child should be able to express his ideas logically and naturally, simply and grammatically, and that his enunciation should be distinct.

I. Tolerance of Other People

The spirit of tolerance, though not inborn in men, is fundamental to our culture and the Christian teaching upon which it is based.

Children will have to learn to tolerate differences in temperament, outlook, and interest even among members of their own groups, both in and out of school.

Tolerance of attitude may be imparted to children by example as much as precept, and the example set by teachers will be powerful in this respect. Children will begin to learn to be tolerant in their group activities in the early stages of their education, and there will be opportunities for the attitude to develop with their team games and activities later in school life.

Children must be taught to be tolerant, to understand and respect the modes of life, beliefs, customs, habits, and practices, and even unusual features of dress and physiognomy, of people with a cultural, historical, and geographical background different from their own.

Lessons in Geography, History, and Scripture can be used to familiarise the children with foreign cultures and to explain foreign customs and modes of life.

J. Ability to Work Hard

Everything should be done to encourage children to enter whole-heartedly into all their activities. By devising suitable methods and by adequate preparation of lessons, the teacher will be able to stimulate the children to work to capacity. It is important that the programme of work should be carefully graded according to rate of progress; otherwise, the children may lose the will to work through discouragement.

Sometimes children will be required to work quickly, and on such occasions as these the teacher may be concerned with the accuracy of the results rather than with the presentation of the matter. Such occasions will, however, be the exception. Generally, teachers should be insistent that the work of children should not only be accurate but should also be presented worthily.

III. Some Aspects to be Considered Specially in the Social Training of Dull Children

The social needs of all children are essentially the same at the primary stage, whether they are brilliant, average, or dull. For the dull, it will be necessary to repeat lessons and instructions many times until they are absorbed, because the rate of learning is slow. For these, training by precept only will be in vain: whenever possible, their social training should be the outcome of demonstration and practical activities.

The most valuable opportunity which the school can give the dull child, particularly at the infant stage, is the opportunity for free play in a stimulating environment. This environment should supply interest and present a challenge to accomplishment. The dull child needs the opportunity to explore and discover at first hand the possibilities of the materials and equipment provided. He needs opportunities to move freely and to engage in conversation with children of his own age. The normal environment which is now provided by most teachers for reception classes will meet his needs throughout the infant stage.

There should be opportunity for sand-and-water play, domestic play in the house-corner, art and craft materials, big toys and climbing apparatus. The school environment should be extended by walks in the neighbourhood, so that the life of school does not become divorced from the world around. The dull child will be slow to perceive new additions to the environment and the teacher will need to direct his attention continually to new elements in his surroundings. One of the lessons the dull child, like the normal child, must learn is the need to mix amicably with other members of the group, to make contributions to the efforts in hand, to converse sensibly, and to share the use of equipment without tears and tantrums. During these periods of free play, the teacher will find that observation of dull children, and comparison of their reactions with those of more normal pupils, will teach her many things about her pupils and give a guide to the formulation of methods for handling them.

The strongest influence for good in the life of a dull child is probably that of the teacher. School can be a sanctuary of brightness, happiness, and affection to a child, particularly when home conditions are poor. The atmosphere the teacher creates in the classroom, by both precept and example, is one to which most of the children will respond. The example the teacher sets in kindness,

good temper, good humour, tolerance, and justice should be of as high a standard as the example she sets in speech, dress, orderliness, good manners, and punctuality. By her own attitudes and standard of behaviour, she influences the children both consciously and unconsciously. Trust engenders trust; fear breeds fear. The atmosphere in the classroom should be such that good habits are accepted as the normal form of behaviour. A dull child should never be the obvious subject of conversation between teacher and teacher.

The teacher should be as ready to listen as to talk. Each child should be treated with friendliness—even the difficult ones. All children should be given a chance to talk and share in class affairs. When a child feels that he matters, then, as Ruskin says, "will the pleasure of his work grow like the colour of the petals from the flower". His qualities of honesty and integrity will unfold; bad habits will be replaced by good, and he will be ready to take his place in a community which not only owes him a duty but to which he in turn owes a duty.

To give a child unlimited freedom is as unkind as to fetter him. It should not be forgotten that lack of reasoning power makes it impossible for a dull child to comprehend a complicated system of rules; and also that, like any other child, a dull child can be lazy. Consequently, while rules of conduct are essential and their observance necessary, they should be simple and few in number. They should be presented as habits and customs acceptable to all. Conformity and consistence should be common to both dull and bright. If a dull child is genuinely busy, disciplinary troubles will tend not to arise.

The standard of work required must be one which allows hope of success. Work which is too difficult causes frustration, results in poor progress, and gives rise to troublesome behaviour—a bad habit easily acquired by any unoccupied child. Sustained, successful effort rather than a high level of attainment should be the aim, and small additional tasks or occupations should be ready for those who finish their work quickly. Praise and small "task" rewards are better than censure and correction. No child should ever be punished for lack of ability, nor should poor work or laziness be tolerated. While corporal punishment may sometimes be salutary, its application should be strictly limited and should not become an outlet for the teacher's irritability and irascibility. Children appreciate justice and, whether dull or not, can be trained both to accept and to offer it.

It is important that teachers should establish early contact with the parents of all children. This is particularly true of dull children, since only by doing so can teachers learn to appreciate any personal difficulties that may be aggravating the effects of the innate dullness of these children and hope to understand the characteristics of the cultural background which they have acquired before coming to school. In social training the teacher will need to modify her approach, adapt her methods, and adjust her own expectation of results in accordance with the traditions the dull child has already learned to accept at home. The majority of dull children may come from homes in which the standards of social behaviour are not high, or may even be in conflict with those taught at school. By a personal contact with the parents, the teacher will be able to assess the scope of her task. She may, moreover, be able by degrees to convince them, and the other members of the family, that the work she is endeavouring to do has a real and practical value, and may in time be able to secure their co-operation. Without this co-operation, her work in school will be frustrated constantly.

It is usually advocated that this personal contact between teachers and parents should be established through parent-teacher associations. These associations, however, are not always effective bridges between school and home for dull children. It may be that in the main the parents of dull children tend themselves to be dull and unable to appreciate the necessity for parent-teacher associations. There may also be good reasons why the parents of dull children find it difficult to attend the functions arranged for them; for example, both parents may work, one or both parents may have to work at inconvenient hours, there may be a large family requiring the mother's constant attention, or the parents may consider they are unable to afford to dress suitably for such functions.

Teachers may find it necessary, therefore, to take the initiative to establish a personal and direct contact with the parents of dull children. Some parents visit the school with their child during the term preceding the date of admission, and head teachers take this opportunity of getting to know the parents, of learning all that is essential about the background and history of the child, or letting the child see the reception class at work, and of introducing him to the teacher. Other parents defer their visit until the child has been admitted. Some appear to make no effort to visit the school, and teachers are advised to write to them personally, inviting them to do

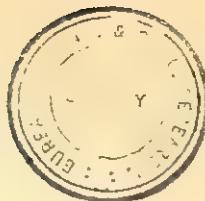
so. It is most important that this personal contact with the parents be made when the child is first admitted to school.

If a dull child is suspected of suffering from any serious physical disability or emotional disturbance that may impede his educational development, the case should be reported immediately through the Director of Education to the School Medical Service.

Parents should be encouraged to attend when their children are being medically examined. It may be possible for head teachers to consult the parents about their children. Discussions of this nature would be particularly valuable, since experience has shown that on these occasions parents tend to be more communicative.

Although it may call for some forbearance and patience, the dull child should be given a fair share of the routine tasks that ensure the smooth running of a school. Instructions should be framed in words within the child's vocabulary, and should be expressed clearly and concisely.

Finally, the social training of children will not be confined to activities which take place outside the actual lessons. Every subject has a contribution to make to this aspect of a child's education, and throughout all the subject-teaching a child will acquire attitudes towards work, materials, and his fellow pupils. The contribution that the various subjects may make towards this wider issue will be dealt with under the chapters dealing with them individually.



Chapter III

RELIGIOUS INSTRUCTION

As the way of life of the dull child is dependent upon the standards created in him through the atmosphere developed in the class and school, it is obvious that teachers should at all times display high standards of Christian behaviour. Only when a child is surrounded by such an atmosphere can the same standards be expected from him.

Abstract qualities are largely unappreciated by the dull child and need to be centred on persons who have displayed the qualities in question. Hence the story method has great appeal to him. Those sections from the *Cheshire Agreed Syllabus* which deal with men and women displaying in their lives those high qualities inspired by their faith are commended as a most suitable approach. This approach needs to be supplemented by full use of the homely, everyday incident; a display of any of these qualities in the class or school life should with discretion be praised and used immediately as a means of emphasising this teaching.

Suitable types of work which might be used in the Religious Education lessons are: dramatisation of stories, miming, puppetry, making of models, pictures and picture friezes, and scrap-books. Films and film-strips will also help to enlarge the child's background knowledge.

The nature of the morning service in the Primary School should allow the dull child to share in the corporate act of worship; those children with good singing voices should be encouraged to join the school choir; those unable to read fluently might learn brief extracts to say by heart; dull children can also help with the arrangement of flowers for the service.

Finally, it is recommended that the *Cheshire Agreed Syllabus of Religious Instruction* (including the Foreword and Introduction), having been so carefully and fully drawn up and provided with a list of books dealing with every field of the spiritual life, taken in conjunction with Chapter II of this book on "Social Training", be used as a basis for the Religious Education of the dull child.

Chapter IV

PHYSICAL EDUCATION

I. General Aims

IN considering Physical Education for dull children it would be well to keep in mind the aims of Physical Education as a whole. These are, broadly speaking: to build and maintain a healthy body; to encourage healthy habits; to create self-confidence and mental alertness; to create an interest in a variety of forms of physical activity; and to obtain the highest standards of which the child is capable.

II. Physical Differences to be Considered

The general physique of children has undoubtedly improved during recent years, but appreciable physical variations still exist between children. Children might be roughly classified as follows:

- (a) The passive, the inert, and the slow.
- (b) The weakly and the under-developed.
- (c) The strong and the agile.

Children in the first two groups, whether they are dull or bright, are generally clumsy and easily tire, while those in the third group abound in energy and are apparently tireless. It is evident that all children do not necessarily need the same treatment physically.

Children in the first group, whether they are bright or dull, need special stimulation and encouragement. Passivity and slowness should not be an excuse for poor performance.

Children in the second group need the most careful handling, for the dull children in this group have the greatest physical and mental disadvantages. Like others, they should be encouraged to exert themselves to their full physical capacity, but the teacher should be vigilant for all signs of over-strain and fatigue.

In the third group there may be dull children who can perform as well as many bright ones, and suitable work should be given to keep them busy and interested. In this way they will be happier in their work, will enjoy their Physical Training, and will derive benefit from it.

III. The Need for Variety in the Physical Education Scheme

Whatever their physique, dull children usually lack self-confidence. One of the principal aims in teaching Physical Education to dull children should be to increase their self-confidence. The gain is not solely physical, but also mental and moral. Because of their lack of confidence and previous lack of success they are too often predisposed to failure, and are unambitious. If the children, whether they are dull or bright, can feel that their efforts are really worthy of praise, they will gain in self-esteem. Children cannot reach a good standard of performance unless they have confidence in their own ability. This can best be achieved by the provision of varied types of activity, so that dull children will find some which will give them satisfaction. The Physical Education scheme, in addition to the normal Physical Training lessons, should therefore include a variety of activities such as games, selected athletics, dancing, swimming, etc.

One of the advantages of these branches of Physical Education is that they afford other media in which dull children may find new opportunities for proving that they can be efficient and successful. Here academic knowledge and skill are not the sole deciding factors. Academic deficiencies, existing since infant days, do not doom dull children to failure in these new media, but permit a new start to be made and past failures to be forgotten.

IV. The Physical Training Lesson

It is generally recognised that the segregation of dull children (in the normal Physical Training lesson) should not occur. Even in group work, a single group of dull children should not be established. Arguments in favour of such an arrangement can be advanced, but non-segregation appears to offer greater benefits to the children. Some dull children can undoubtedly give good performances in Physical Training, and encouragement and praise should be offered liberally. The value of encouragement and praise for good effort cannot be too frequently emphasised. Self-confidence must be created in all children and full use made of modern methods which aim at a personal standard of performance rather than a competitive one. Dull children should be allowed to try anything bright children try. If dull children can be made to feel that they are part of the team, can earn justified praise, can experiment and above all gain

self-confidence, the Physical Training will be of real worth. Dull children should be encouraged to act, in their turn, as:

- (a) leaders of groups or teams;
- (b) apparatus monitors;
- (c) examples of good performance.

This is very important, as too much emphasis cannot be placed upon the fact that responsibility and leadership should not be reserved for the bright. Responsibility and leadership should be shared by the dull, who should not be neglected or allowed to feel they are being neglected.

Modern methods of teaching Physical Training allow children to work in their own time and rhythm, and place emphasis on individual effort. The dull, as well as the bright, can experiment without fear of failure or odious comparison, and can progress at their own rate. Generally speaking, dull children are slower than bright children in responding to orders, and allowance should be made for this. In the past, criticism of performance has often undermined the little self-confidence dull children have and has done much to spoil the pleasure and benefit they might otherwise have obtained.

With regard to the separation of the sexes for Physical Training lessons, it is conceded that the type of school and teacher must be a serious consideration, but it is recommended that, apart from some games, mixed classes are preferable, except, perhaps, in the upper part of the junior school.

A wide variety of approved hanging and climbing apparatus should be used, as these media often provide opportunities for dull children to show ability equal to that of the brighter children.

V. Games and Simple Selected Athletics

As already mentioned, segregation of the sexes for games in the primary school, except for major games such as football, is not recommended. Separation of the dull and bright children is not recommended either. Rather, when it comes to playing competitive team games, it is better, where numbers permit, to divide the children according to their ability in those games. The more proficient players prefer to battle against others of their own calibre, and the less able find greater satisfaction in pitting their meagre skill against children of similar ability, rather than feeling outclassed in a faster game.

It is in these circumstances, however, when graded games are being played at the same time, that the teacher has to take careful check on the time he spends with each game.

Practice for simple athletics, such as running and jumping, is purely individual and a great sense of achievement can be obtained as individual standards improve. It is frequently in this type of activity that dull children can obtain satisfaction from a feeling of success.

VI. Dancing

Dancing in some form or other should always be included in the Physical Education scheme for both boys and girls, and should be taught in mixed classes. It is particularly valuable for dull children, as the music helps to stimulate action in those who are lethargic, it provides an activity in which those who are weakly might well excel, and gives ample opportunity for exercise for those who are strong and agile.

The value of Music and Movement, usually taken in the infant school and sometimes continued in the junior school, in the form of movement training or modern educational dance, cannot be overstressed. It provides opportunity for imaginative work and self-expression, and has an aesthetic value which cannot be obtained so easily in any other way.

Folk-dancing of different nationalities forms an important part of the dancing lesson in junior schools, and dull children often find great satisfaction in it because of the opportunity it offers for assimilating knowledge through constant repetition.

VII. Swimming

Swimming should form part of the junior school curriculum, as it can be an important factor in the establishment of self-confidence in dull children. It is a medium in which they can easily excel, thereby gaining praise and a sense of achievement which might lead them to carry on with this activity as a recreation when school days are over.

VIII. Health Education

Personal cleanliness is dealt with on page 29 in the chapter on Social Training, but its importance to the dull child should be

reaffirmed here. Throughout the school day health training is important, and Physical Education can be used to influence character as well as body. Good habits, a high standard of personal cleanliness, and pride in one's body and appearance, etc., give many opportunities to contribute to positive health education. Children should be encouraged to wear suitable clothes and footwear for all forms of physical activity.

The vital importance of good posture cannot be over-emphasised. A good standard of performance in the Physical Training lesson does much to create good posture, but it is something which should receive attention throughout the school day. The carriage of children as they walk about school, and the way they sit as they work at their desks, should receive the teacher's continual attention so that good posture becomes habitual. Minor physical defects may be noted by the teacher, especially if the child strips for physical training, or by the school medical officer during medical inspection. It is of the greatest importance that there should be close co-operation between the school and the school medical officer so that, where necessary, simple corrective or remedial exercises can be recommended and practised.

Reference Books

Title	Author	Publisher
Physical Education in the Primary School Part I: Moving and Growing Part II: Planning the Programme	J. Edmundson	H.M.S.O.
Technique in Physical Education Suggestion for the Use of Small Apparatus	I. Munden I. Munden	Harrap
Physical Education for Infants		Ling P.E.A. University of London Press Ltd.
45 Easy Games for Juniors and Infants	D. D. Pybus W. I. Warren	Oxford University of London Press Ltd.
100 Games and Activities		
Games Worth Playing	McGuaig and Clark	Longmans
Modern Educational Dance	R. Laban	Macdonald & Evans

<i>Title</i>	<i>Author</i>	<i>Publisher</i>
Games and Activities for Infants	M. Laing	E. J. Arnold
Games and Games Training for Juniors	M. Laing	E. J. Arnold
Modern School Hygiene	R. Gamlin	Nisbet
Know the Game—Football		Educational
Know the Game—Netball		Productions
Know the Game—Rounders		Ltd.
Swimming for Teachers and Youth Leaders	M. Jarvis	Faber

Chapter V

TEACHING ENGLISH

I. General Principles

BECAUSE of the present size of primary classes containing children of a wide range of ability, the rate of learning of the whole class tends to approximate to that of the children of average mental ability. Group-teaching may counteract this disadvantage of class-teaching; but even so, the dull child presents special problems. Because of their industry and activity, of their constant appeal for attention arising out of their greater output of work, the teacher is often drawn into devoting most of her time to the pupils of average or superior intelligence, at the expense of the dull children. If the dull child is neglected, the consequences may be far-reaching and unfortunate. He becomes sensitive about being neglected, and the realisation of the reason for this neglect aggravates his sensitivity. If the stream of instruction flows over his head, a feeling that he is inferior deepens. In these circumstances he may pursue one of two courses. He may become withdrawn or he may become aggressive. He may seek compensation for his sense of inferiority by shutting out a world that sets standards he is not assisted to attain, and recede into a world of day-dreams; or he may find recompense by avenging himself in exhibitions that end in revolt against authority.

In some of the larger schools, there will be sufficient dull children in an age-range to form a class. In the majority of schools, the dull children will be in classes containing children of normal and superior intelligence. In these, the dull children should, in the main, be taught as a separate group. It should also be remembered that even in the larger schools where classes can be formed consisting entirely of dull children, there will still be a sufficiently wide spread of Intelligence Quotients ranging from 55 to 85 to justify the formation of distinct groups, each consisting of children of a similar level of ability. In schools of 1-form entry or less there will exist in every class a group of children whose Mental Ages are those which are average for a younger class. It cannot be too strongly emphasised, therefore, that:

(a) the teacher must regard, and teach this group, as if it were a lower class;

(b) although the subject-matter of the lessons may be suitable for the Chronological Ages of the dull children in these lower groups, the method and approach must be suited to their Mental Ages.

Differences in mental capacity between individuals are smaller at the infant stage and increase as they progress to later stages of school life. This, as it were, is the beginning of the race, and the pupils have yet to space themselves out over the field of school attainment. It is, therefore, felt that at the infant stage the programme for the normal child is also beneficial for the dull child, since he learns a good deal from his association with other children, and since at this stage his needs are close to those of normal children. Differentiation will begin towards the junior stage and become more marked as the dull child gets older, since as his Chronological Age increases he lags behind more and more in attainment compared with the normal child.

Reference has already been made in the Introduction to the difference between backward children and dull children. It is sometimes difficult to ascertain into which of these categories a slow child should be placed. A specific testing programme is required in the earlier stages of the junior school to distinguish between children who are innately dull and those who are backward. Useful group tests to assist in discrimination of this kind are:

The Moray House Picture Intelligence Test.

The Sleigh Non-verbal Test.

The Otis "B" Test.

II. More Specific Principles in Teaching English to Dull Children

(a) English must not be looked upon as an isolated subject. It enters into all subjects the child undertakes and is an essential part of the fabric of his life.

(b) Each aspect of English teaching must be recognised as contributing an essential and indispensable part to a complete pattern; it cannot be isolated without disfiguring the pattern and without loss to itself.

(c) The content of lessons in English, as in those in other subjects, should consist of realistic material based upon the child's day-to-day experience, and should have some reference to the kind of life he is

likely to lead when he leaves school. Oral work should be approached through actual experience and should be closely linked to it. The child's reading and writing exercises should also consist of material related to the kinds of experience with which he is familiar.

III. The Subdivision of English

English may be subdivided into:

- A. Language Development.
- B. Reading.
- C. Written Work.

Any overlapping should not be regarded as trespass, but as natural and essential. Lessons should be short, consist of positive activity, and include co-operative activities in handwork, dramatics, art, and verse-speaking.

For normal children it is generally agreed that a clearly defined amount of time should be devoted to each subject each week. This also applies to dull children. For them, however, some latitude should be permitted in the structure of the time-table, so that the teacher should not be required rigidly to teach a certain subject at a prescribed time. There should be sufficient flexibility to enable her to improvise her time-table so that it coincides with the interests of the pupils provided that, at the end, the total amount of time required for teaching a particular subject in any week has indeed been devoted to it.

A definite standard of performance is required of each child according to his Mental Age; this should also be demanded of the dull child. Every child should be required to give of his best.

A. Language Development

Spoken English is the primary method of the expression and the communication of ideas and desires for all children, and it is essential that each shall be able to speak his mother tongue with some degree of fluency. This implies clarity of thought, clear expression, an adequate vocabulary, and correct grammar. Language study should not be a 'compartmented subject' but should permeate all subjects.

One of the commonest defects in dull children is their inability to express themselves fluently in speech. The comprehension of words and moderate skill in using them to exchange thoughts should precede all attempts at formal learning to read, since, without

speech, abstract word symbols have no relation to reality. Growth in language depends on growth in ideas and on the opportunity to express such ideas. The school environment should provide the opportunity for the growth of ideas, and the dull child should be allowed to express himself by comment on his environment.

1. INFORMAL CONVERSATION

In the infant school, the free-play period should give children ample opportunity for expressing themselves through conversation. The dull child's first attempts at conversation should not be prompted, but should arise from spontaneous comments on his activity and his environment.

2. GROUP DISCUSSION

The discussion of some groups will crystallise around a particular activity. The teacher will find it necessary to watch each group, and as soon as she realises that the time is ready for the attention of a particular group to be directed towards a new form of activity, she will seize the opportunity of suggesting (or ensuring that the suggestion appears to come from them) something new that they can do or make. She will make certain that each group accepts and seriously considers suggestions from any dull child in it and make sure that he is encouraged to express his ideas.

Throughout the infant and junior stages there should be opportunities for free expression about such things as pets, home, games, birthdays, etc., and this work can be extended to the compilation of the daily news-sheet and giving news talks. First-hand experience during walks, handling actual objects and examining pictures and books, all stimulate conversation and are very important to the dull child.

3. VOCABULARY EXTENSION

It is essential for a teacher to plan to extend each pupil's vocabulary by keeping lists of words to be introduced to the children and repeated by them until they have assimilated them. Words which are too technical or abstract should be omitted. The teacher will doubtless consider it advisable to prepare special lists of words for the dull child. These should be simple, and related both to the stage he has reached in reading and directly to his experience. She must accept the fact that the dull child will require more time to extend his vocabulary to embrace a limited range of words. The bright

child, on the other hand, may be expected to extend his vocabulary, not only through specific vocabulary exercises, but through his normal activities. The teacher should see that the stimulus for speech arises from the child's interests and experience, so that it has a real meaning for him.

It is more important that during the early stages the dull child should express himself freely rather than correctly. The teacher should avoid calling attention to his faults, but should try, rather, to direct attention to good speech used by the pupils or by herself.

To express oneself clearly in speech is as important as the ability to read with understanding. Dull children should, therefore, be given frequent opportunities for spontaneous conversation; for example, at the beginning of each day they could be allowed to discuss freely recent events, as well as their plans for the immediate future. As well as freedom to converse, there should also be opportunities for mime and dramatisation. The average child of 8 has a vocabulary of approximately 3,600 words. The vocabulary of a dull child is more severely limited, and it should be one of the first aims of the English Course to increase it.

By the time he is 11 years of age, every dull child should be able to answer clearly such questions as "Where is the nearest Post Office, telephone, doctor, station?"; explain lucidly how simple tasks should be performed; and answer directly simple questions based on a story he has read.

At the junior stage, although it is generally felt that grammar as "grammar" is unsuitable for dull children, it can be argued that since correct speech is really necessary, some fundamentals are essential. Consequently such faults as "I were", "they was", can be eradicated informally as "ear" grammar. Dull children will be unable to learn a great deal of formal grammar, but they may be taught the significance of "naming words" and "doing words".

Wall and Picture Dictionaries can be used to increase vocabulary, and word games and riddles can also play a part. Not only will this "open the tap" to talking, but will help to:

- (i) eradicate speech errors—at the junior stage this can greatly help spelling;
- (ii) create confidence;
- (iii) develop vocabulary.

At the junior stage, the following activities will be found useful:

(i) Short talks on current events, in which the teacher takes part. The children should be trained to prepare their talks, since careful preparation is of the utmost value. The faltering efforts of the pupil forced to speak against his will on the spur of the moment, even if it has some disciplinary effect upon his mental powers, cannot compensate for the depressing effect on the rest of the class.

(ii) Films, film-strips, pictures, models, charts, etc., should be used to stimulate thought and ideas to be expressed either orally or in writing.

(iii) Visits should be arranged to places of work and interest—for example, to farms and timber-yards. The children should visit each place armed with a series of questions, the answers to which they should find out for themselves during the visit.

4. STORIES AND LITERATURE

At the infant stage the stories for children of normal intelligence are enjoyed also by the duller pupils as long as they are short and clearly told. They will include fairy-tales, folk-tales, and action stories connected with the home and their experiences. Such stories will help to stimulate imagination, observation, and thought, and will promote speech development and add to vocabulary.

The teacher should regulate her vocabulary according to the number of dull children in the class. If the number is small, an average level should be maintained, but if there is a preponderance of dull children, the vocabulary should more nearly approximate to their needs.

At the junior stage the choice of material becomes more difficult, since the child's interests become more mature while his understanding remains very immature.

In choosing stories, particularly for older dull pupils, the following points should be borne in mind. The stories should be:

- (a) within their understanding;
- (b) phrased simply;
- (c) not too long;
- (d) of compelling interest with plenty of action and even suspense.

In presenting stories, the teacher should strive to hold the pupil's attention, which with dull children tends to wander, by:

- (a) telling the story dramatically and with actions;
- (b) using puppets or film-strips to illustrate the story;

- (c) using symbolism, e.g. making clay models as the story proceeds, or having models ready for use to illustrate the story;
- (d) blackboard sketches;
- (e) using illustrations of a story sequence.

SUGGESTED MATERIAL FOR READING TO CHILDREN

<i>Title</i>	<i>Author</i>	<i>Approximate Mental Age</i>	<i>Publisher</i>
Great Little Books	R. Fyleman	6 —	A. & C. Black
Stories for the Nursery School	M. Kent	6 —	Harrap
Nursery Stories	R. Fyleman	6 —	Evans
Bible Stories Re-told	M. McCrea	6 —	Evans
Widdy Widdy Wurkey	R. Fyleman	6 +	Blackwell
Ten Minute Stories	M. Kent	6 +	Harrap
Over the Tree-tops	R. Fyleman	6 +	A. & C. Black
The Teacher's Omnibus of Stories (1)	E. L. Turnbull	6 +	Oxford
Rainy Day Stories	E. Blyton	6 +	Evans
Happy House Series	E. Blyton	7 +	Blackwell
Children's First English Fairy Book	Editors: Lee, Pritchard, Forrester	7 +	Harrap
Secret House Series	E. Blyton	7 +	Blackwell
Bible Stories for Children	G. Taylor	7 +	Warne
The Wishing Well	M. Baker	7 +	University of London Press Ltd.
The Old Nurse's Stocking Basket	E. Farjean	7 +	University of London Press Ltd.
Cautionary Tales for Children	H. Belloc	8 +	Duckworth
Children's Uncle Remus		8 +	Harrap
Worzel Gummidge	B. E. Todd	8 +	Puffin
Ten Minute Tales	R. Power	8 +	Evans
Sally, the Ship's Cat	B. K. Thomson	9 +	Blackwell
Children's Book of Saints		9 +	Harrap
The Teacher's Omnibus of Stories (2)	E. L. Turnbull	9 +	Oxford

Title	Author	Approximate Mental Age	Publisher
Chameleon Books		9+	Oxford
Hobo	B. K. Thomson	10+	Blackwell
Swallows and Amazons (Series)	A. Ransome	10+	Cape
Old Peter's Russian Tales	A. Ransome	10+	Nelson

5. POETRY

Poetry lessons for dull children present problems to the teacher, especially when they are in a class of mixed ability. Much of the time available will probably be spent in the teaching and saying of jingles, etc. (see section on "Articulation"), but there still remains the problem of the work in poetry itself.

It is doubtful whether there should ever be a long poetry lesson for the dull pupils. The best plan is to spend a few minutes, perhaps at the end of the morning or afternoon session, reading one or two poems to the children. The teacher can often gauge their interest in a poem in this way, and repeat frequently those they like, until they begin to join in and learn them by heart.

Since poems enjoyed by a group of children often evoke emotional responses, it is hoped that even the dull children will be stirred by emotions such as sympathy or happiness, and so gain something from the lesson.

In choosing poems for the dull, the teacher should look for poems which appeal through possessing one or more of the following features:

- (i) strongly marked rhythm;
- (ii) catchy refrain;
- (iii) conjuring up clear pictures;
- (iv) clear imagery and matter easily understood;
- (v) an exciting sequence of events (narrative poetry);
- (vi) frequent repetitions;
- (vii) humorous appeal—e.g. nonsense poems.

It is not enough with dull children to present the poem in verbal form only. The bright child can use his imagination to conjure up the verbal pictures in his mind, but the dull child needs to be supplied with a vivid interpretation of them. It is therefore necessary to give practical expression to work in poetry. Pictures and illustrations help. Movement and action are very valuable to the dull child, and

acting out a poem with a group of children helps them to understand and enter into the feeling of it. The dramatic presentation of a poem by the teacher herself is also useful.

The timing of the poetry lesson is important. The dull child who has experienced the excitements of a windy day on his way to school is more receptive to a poem about the wind than he would be on a hot summer's day. Although this is also true of his brighter brother, the dull child has not the mental resources of the former to help him overcome his difficulty.

The teacher will find it useful to have at hand many poetry books from which to select material. It is doubtful whether a class poetry book is of much use with dull children, since they themselves read haltingly and will make little or no use of it.

The teacher should keep notes of poems the dull children enjoy and from these try to discover the elements which appeal to them.

At the later stages of the junior school, some attempt must be made to discover material which is more mature in concept and yet simple in form. Finally, it should be borne in mind that the teacher's interest and liveliness of presentation will be the governing factors in the success of all this work.

Reference Books

POETRY FOR MIME, DRAMATISATION, AND SPEECH

Title	Author	Publisher
Book of 1,000 Poems	M. McBain	Evans
Drama Highway Books 1, 2, 3, 4	J. Hampden	Dent
Rhymes and Mimes	C. Fletcher	Art & Educ. Pub.
Book of Nonsense	E. Lear	Dent
March of Rhyme	D. Green	E. J. Arnold
Gateway of Speech Books 1, 2, 3, 4	F. Parsons	Cinn
Spoken Verse Part I	T. Henderson	Oxford Press
Merry Minstrel Books I-IV	H. Perry	Blackie
Golden Road Books I-IV		
Rainbow Poetry Books I-IV }	W. B. White	University of London Press Ltd.
First Jingle Book	R. Bennett	Evans
Second Jingle Book	R. Bennett	Evans
Adventures into Poetry (Junior Books I-IV)	M. Daunt	Macmillan

6. ARTICULATION AND SPEECH FORMS

The speech of many dull children is notoriously bad. This may be

due to some physical defect in the speech organs, in which case the defect is probably best dealt with by referring the child to a speech therapist. Generally, however, slovenly speech is due to lip, tongue, and jaw laziness, and if articulation—that is, the jointing and hingeing of the vowels and consonants into syllables and so into words—is to be improved, the children must be taught to use their lips, tongues, and jaws correctly, or their bad speech habits will persist. Every year of slipshod pronunciation and careless articulation makes correction more difficult, so that the problem is immediate and continuous.

Formal speech training lessons are out of place with dull children. The emphasis should be on attractive rhythm and rhyme, which must help at every stage; and interest and pleasure are the keys to success. Nothing formal in the way of technique should be attempted, but "the fun of the game" will provide incentive for work on diverse individual vowel and consonant sounds occurring in particular jingles. The aim should be to encourage clear, lively speech, and the exercises should be designed to help the children to overcome those difficulties they commonly experience. Miming, movement and dramatisation, all of which will greatly assist in memorisation, should be encouraged.

In addition to attractive rhymes and jingles, use should be made of class-singing, choral verse-speaking, speech games, drama, puppets and simple tongue-twisters for the older children.

The attitude and example of the teacher are of the greatest importance. A teacher who speaks clearly and distinctly with pleasant intonation can set a standard which children will emulate unconsciously. Example is more potent than precept. It is important that the teacher should note examples of coarse vocalisation, slovenly articulation, and bad speech, so that remedial measures can be taken. It is neither possible nor desirable to correct all the speech faults heard during a day's work, but wrong versions of sounds that have been taught must be corrected.

N.B.—The use of small hand-mirrors is a decided help when dealing with difficult sounds.

(a) *The Vowels*

Vowels are the musical part of the language and by means of vowels we make ourselves heard. Pronunciation has to do chiefly with vowel sounds.

The Short Vowels

o	(lock)
u	(luck)
a	(lack)
e	(let)
i	(lick)
oo	(look)

The Long Vowels

oo	(cool)
aw	(call)
ah	(calm)
ur	(curl)
ee	(week)

All vowels must be well forward and the lips must be put into the correct position before beginning the sound. Blackboard diagrams showing the tongue and the shape of the lips will help.

Some vowel sounds present more difficulties than others and should be practised oftener. These include:

(a) *the long "oo" sound*, e.g.: coo, moo, boo, do, you, shoe, true, blue, hoot, boot, root, rude, cool, school, soon, noon, moon, etc.

(b) *the short "oo" sound*, e.g.: foot, full, pull, put, soot, wood, good, stood, hood, hook, nook, rook, book, look, cook, cushion, etc.

(c) *the short "u" sound*, as in luck, nut, cut, hut, but, bud, bus, dug, hug, jug, lug, gun, love, dove, funny, bunny, other, mother, come, custard, tongue, butter, punch, blood, etc.

(d) *the "ur" sound*, as in: fur, turn, burn, worm, firm, fern, dirt, hurt, nurse, purse, pearl, birth, girl, first, worse, etc.

(b) *Diphthongs (Double Vowels)*

ay	= a-e	make, bake, cave, ache, plain, reign, daisy, Rachel, etc.
ie	= ai-i	mite, bite, buy, light, bright, white, etc.
oh	= o-oo	mote, bone, bowl, hold, know, por ^Y , etc.
oi	= oi-i	coil, boil, boy, soil, noise, coin, voic ^Y , royal, etc.
ow	= ou-u	cowl, town, brown, fowl, crown, tow ^Y , powder, etc.
ew	= e-u	few, dew, mew, new, view, pew, huge, duke, etc.
eer	= i-er	beer, cheer, dear, pier, year, tear, shear, weary, appear, etc.
air	= e-a	fair, stair, bear, tear, their, where, careless, mayor, etc.
ore	= aw-e	bore, more, door, floor, explore, drawer, etc.
oor	= oo-a	boor, door, sure, poor, moor, pure, tour, jury, etc.

Selection should be made, especially those which have local significance, e.g.:

ow—how, now, brown, cow, town, thousand.

oor—pure, sure, moor, poor.

u—few, dew, new, pew, duke.

air—fair, stair, where, etc.

(c) *The Consonants*

Articulation has to do chiefly with consonant sounds. Initial and final consonants are very important and require vigorous attack.

Plosives—p, b, t, d, k, g.

Nasals—m, n, ng.

Lateral—l.

Fricatives—f, th (thin), s, sh (shy).

v, th (they), z, zh (azure), r, h.

Semi-vowels—w, y.

Fricatives present most difficulties, especially the aspirate (h), and all breath sounds (r, f, v, and th). Some dull children, even at 11 years of age, say fank (thank), wiv (with), fahver (father), fevver (feather), birfday (birthday), barf (bath), etc., and the fault usually lies in lazy lips and lazy jaws.

Bad articulation also occurs:

(a) when two consonants come together in the same word (the repeated consonants should be prolonged), e.g.: little, middle, oatmeal, loudly, fortnight, etc.;

(b) when two similar consonants come together in different words (the repeated consonant should be prolonged), e.g.: mad dog, good day, map pole, they went to see, this street, this strange ship, etc.;

(c) when two vowels come together in the same word, e.g.: violet, violin, cruel, dia'nond, Samuel, fear, poem, February, etc.;

(d) when a final consonant is followed by an initial vowel, e.g.: her eyes, an egg, 'ier own, pay up, red ink, don't you know?, etc.;

(e) when a final consonant is omitted, e.g.: good morning, bread and butter, meek and mild, reading and writing, etc.;

(f) when "d" and "t" are followed by "u", e.g.: duke, dew, do you?, duty, during, etc.;

(g) when "w" occurs, e.g.: drawing, sawing.

The children's ordinary speech, reading aloud, etc., will provide a variety of examples.

Excessive vocalisation must be avoided, especially in small words like: at, the, to, a, of, etc.

7. CHORAL SPEECH

The teacher may find the following notes on choral speech useful in dealing with articulation. Much of the matter, whilst suitable for general class work, may be too advanced for dull children; a teacher, however, will be able to extract what is useful to her for special speech work with dull children. Even so the teacher will realise that for speech work the separation of dull pupils may be difficult. Moreover, the dull child not only gains confidence from choral speech, but also finds a real opportunity of enjoying some common activity with the rest of the class. He obtains speech practice and instruction without segregation.

(a) Unity

The speakers must work as a team. There must be unity of:

- (i) articulation and syllabification;
- (ii) pitch and inflection.

In spite of differing individual qualities, the voices must blend harmoniously to a common unified whole in tone, must move as a team with a single appreciation of sense-stresses, so that the inflection line linking these is a single line. They must also agree with regard to:

- (i) phrasing and breathing;
- (ii) interpretation and expression;
- (iii) rhythm—stress must be allied to rhythmic beat;
- (iv) rhythmic arrangement of pattern in sound (mid- and end-rhyming words);
- (v) marking alliteration and in letting sound echo sense.

(b) Formation of Verse-speaking Choir

(i) *Numbers*.—Most satisfactory numbers, fifteen to thirty. Numbers larger than this become cumbersome. Later, smaller numbers of eight to twelve can do good work.

(ii) *Grouping*.—Light voices greater in number than heavy or lower (sometimes called dark) voices. Listen carefully to the individual voice for grading. Then hear and contrast two or more solo voices together for a more careful grading into light, medium and dark voices.

(iii) *Selection*.—Clear voices with good quality in vowel sounds.

(c) *Faults the Choir Director Encounters*

- (i) Children tend to say poems with a very marked rhythm in a sing-song manner. The teacher should practise the lines to avoid this, urging the children to get a variety of tone. The rhythm must serve the poem and should never be allowed to dominate it.
- (ii) Faulty vowel or consonant formation.
- (iii) Rigid jaws. Tight lips.
- (iv) Noisy intake of breath. Lack of silent renewal.
- (v) Insufficient intake of breath, resulting in the end words or letters in a phrase falling off or dropping. Practise monotoning phrases, renewing breath at the end of each phrase. Music Note G for light voices and E for darks is good for this.
- (vi) Lack of attack, and the whole choir moving through the finishing syllable at the same time. Choir must move with the conductor until it has felt this unity.
- (vii) Jerkiness and speaking without real appreciation of the thought uttered. Practise the vowel sounds on music notes, sustaining the sound on the note. Intone phrases to get the legato effect.
- (viii) Certain words with more than one syllable are not always given full syllable value. Say each syllable slowly for this.
- (ix) Inflectibility—the whole choir dragging. Practise jingles.
- (x) Stressing of important syllables in a word, e.g. mounted, noiseless, shouting, etc. Tendency to stress final syllable.
- (xi) Carrying-over the end consonant into words commencing with a vowel sound, e.g. the song gends; this safternoon.

In his conducting, the Choir Director should be able to:
 maintain the tempo and the beat;
 bring out the variety of pitch, inflection line, and pace;
 emphasise the stress on certain words;
 evoke something of the mood of the poem.

(d) *Voice Production*

Inflection (Rise or Fall of the Voice).—The differences in pitch in spoken words or sentences are important, and experience has proved that certain inflections can be used in certain cases. Test the examples given below:

Upward Inflections

- (i) Use for all entreaties, pleas, requests:
 "Will you please pass me the bread *and butter*"; "Let him *in*"; "Please spare *him*."

- (ii) Incomplete statements, expressing surprise, suspense:
"To-day is—"
- (iii) In building up a passage, give upward inflection until statements are completed:
"Scrooge was his sole executor, his sole administrator, his sole friend, his sole mourner."
- (iv) Parentheses (spoken more quickly than context and in a lower pitch):
"And slowly, slowly, more and more.
The moony vapour rolling round the King,
(Who seemed the phantom of a giant in it)
Enwound him fold by fold."
- (v) Qualifying phrases:
"The man, *laughing the while*, departed."
- (vi) Questions which can be answered by "Yes" or "No":
"Cannot thy master sleep these *tedious nights*?"
- (vii) Retorted questions:
"Why, was *I crying*?"
- (viii) The first member of alternative questions:
"Have I the pleasure of addressing *Mr. Scrooge*, or *Mr. Marley*?"
- (ix) To give effect to climax, phrases preceding it should be given rising inflections.

Downward Inflections

- (i) Complete statements; finality:
"I will *not go*."
- (ii) Commands:
"Give me some *music*."
- (iii) Second member of alternative questions:
"Have I the pleasure of addressing *Mr. Scrooge*, or *Mr. Marley*?"
- (iv) Strongly emphatic negative sentences:
"I refuse to *come*."

Antithesis as a rule takes an upward inflection on one clause of a balanced statement and a downward inflection on the other:
"Day unto day uttereth speech, and night unto night sheweth knowledge."

Inversions usually take a downward inflection:
"Go he *must*."

Pitch

In ordinary conversation, range generally extends over five notes, middle C to A. With:

- (i) excitement and kindred emotions, voices rise to higher pitch;
- (ii) sorrow, heavy work, voices fall to lower pitch;
- (iii) declamatory speech, commands, voices remain at same pitch.

(e) Stress

- (i) Stress first the verb. It is the active part of the sentence.
- (ii) Stress secondly the noun. It will be the subject of the sentence or the object of the statements contained in it.
- (iii) Rarely stress the adjective apart from the noun. Link them together in one stress, so that the adjective is taken through into the noun.
- (iv) Avoid stress on pronouns unless they contradict each other, and avoid, above all, a stress on "I".
- (v) Avoid stress on particles unless they hold more than their usual meaning, e.g.:

"This is *from* the purpose of playing", i.e. "away from".

SUGGESTED SELECTIONS FOR CHORAL SPEAKING

Title	Author	Source
<i>Poems for Antiphonal Treatment</i>		
"Big Steamers"	R. Kipling	Songs for Youth
"The Canticle of Brother Sun"	H. Munro	Oxford Book of English Verse
"Leisure"	W. H. Davies	
"The Camel's Hump"	R. Kipling	Just So Stories
<i>Poems Suitable for Unison Work</i>		
"The Stolen Child" (Refrain and Solo)	W. B. Yeats	Palgrave's Golden Treasury
"Messmates"	H. Newbolt	Poems of Today
"The Vagabond"	R. L. Stevenson	Poems of Today
<i>Group Work</i>		
"Cargoes"	J. Masefield	Modern Anthology of Verse
"Let us now praise famous men"		Ecclesiasticus
"Drake's Drum"	H. Newbolt	Poems of Today

Title	Author	Source
<i>Poems with Refrain</i>		
<i>"The Merry Beggars"</i>	R. Brome	Prose and Verse Speaking, Book 4
<i>Excellent reference books are:</i>		
<i>Approach to Choral Speech</i>	M. Swann	Publisher
<i>Speech Training in Schools</i>	M. Gullan	Macmillan
<i>The Playmakers</i>	Cobby and	Evans
<i>Speechcraft</i>	Newton	Pitman
<i>Speech Drill, etc.</i>	E. Fogerty	Dent
<i>Speech Training Verses and Melodies</i>	Thomson and	McDougall
<i>Speech House 1, 2, 3 (7-11)</i>	Davies	
<i>Speech Training and Practice</i>	E. Mayall	McDougall
<i>Speech Rhymes Intro., 1, 2, 3, 4</i>	A. McR. Chapman	Oliver and Boyd
<i>Acting Rhymes 1, 2, 3, 4, 5</i>	C. Sansom	A. & C. Black
<i>Many Voices</i>	C. Sansom	A. & C. Black
<i>Gateway of Speech 1, 2, 3</i>	M. Swann	Macmillan
<i>Speaking and Acting</i>	F. Parsons	Ginn
<i>First Steps in Speech Training</i>	Ed. A. F. Finney	Schofield and Sims
<i>Stories Adapted for Acting</i>	R. Bennett	Evans
<i>Speechcraft—teacher's book</i>	R. Power	Evans
<i>Speaking is Fun</i>	E. Fogerty	Dent
<i>Trippingly on the Tongue</i>	A. P. Tolfree	Wheaton
<i>Little Book of Rhymes Old and New</i>	M. Swann	Macmillan
<i>The Playmakers</i>	Cobby and Newton	Blackie
<i>Adventures in Words</i>	R. Bennett	Pitman
		University of London Press Ltd.

8. MIME (SUITING ACTIONS TO WORDS)

The following books might be useful:

BOOKS OF REFERENCE

Title	Author	Publisher
<i>The Art of Mime</i>	Irene Mawer	Methuen
<i>Practical Miming</i>	H. G. Pickersgill	Pitman
<i>Mimes</i>	H. G. Pickersgill	Pitman
<i>Mimed Ballads and Stories</i>	H. G. Pickersgill	Pitman

<i>Title</i>	<i>Author</i>	<i>Publisher</i>
Ballad Mimes	H. Maughfling and M. Phyllis	Samuel French
Mimes and Miming	Isabel Chisman and Gladys Wiles	Nelson
Plays in Verse and Mime	Rosaline Vallance	Nelson

Material for Miming

Good material for Miming is that in which the story is told without digression and in which the actions are definite and well distributed among the characters. Care must be taken that the matter must not be too advanced for the dull child.

The Miming of Nursery Rhymes, Folk-songs, and Old Songs

"The Keys of Canterbury"	"Where are you going to, my pretty Maid?"
"Oh, No, John!"	"Simple Simon"
"Green Broom"	"Curly Locks"
"Ten Little Nigger Boys"	"Sing a Song of Sixpence"
"Clementine"	"Wraggle Taggle Gypsies"
"Widdicombe Fair"	

The Miming of Ballads and Fairy Stories

Ballads

Robin Hood Ballads "The Blind Beggar's Daughter of Bethnal Green"
"Sir Patrick Spens"
"Robin Hood and Little John"

P. 200

“The Barring of the Door” “Lochinvar”, etc.

Stories

The Princess and the Swineherd

Historical Scenes—e.g. The Coming of the Armada
Queen Elizabeth and Walter Raleigh

Queen Elizabeth and
Stories from the Greeks—e.g. Pandora's Box

—es from the Greeks—e.g. Pandora, Echo and Narcissus

ADDITIONAL TITLES FOR CHORAL SPEAKING AND MIME

Poem	Title and Author	Publisher
“Riding in the Rain”	Speech and Rhymes	A. & C. Black
“Soft Steps”	Speech and Rhymes	A. & C. Black
“Big Boots”	Jungle Books	Evans
“Fun Boat”	Jungle Books	Evans

Poem	Title and Author	Publisher
"Shop Window"	Jungle Books	Evans
"Bubblebonty"	Speech Rhyme	A. & C. Black
"Mateerie and Matornie"	Spoken Verse	Clarendon Press
"Going to Sea"	Speech Rhyme	Blackwell
"Buckingham Palace"	When We Were Very Young	Methuen
"Shoes and Stockings"	A. A. Milne	
"Lobster Quadrille"	Thro' the Looking-Glass	Blackie
"Beautiful Songs"	L. Carroll	
"Song of the Western Men"	R. S. Hawker	
"The Barrel Organ"	Books of 1,000 Poems	Evans
"Nonsense Poems"	Book of Nonsense	Evans
"Sir Brian Botany"	Drama Highway	Dent
"We be the King's Men"	Spoken Verse	Clarendon Press

9. DRAMA

Most teachers feel hesitant about this form of expression even with bright pupils, and think that drama implies that children learn parts and present plays in a form which coincides in an amateurish fashion with the "adult" theatre. If, however, we watch young children, we find in the informal dramatic play, of house, school, shop, weddings, or Red Indians, a conscious effort to enter into the experience of others, and the children do in fact learn not only to imitate, but to add other reactions which would be normal in a situation they conjure up. We also note that pupils are more nearly their true selves in this relaxed state and are at their most creative.

Conceived in this way this medium is, therefore, most beneficial for dull pupils, since it can develop speech, ideas, and movements, and helps them to gain poise and security. It is also, when carefully handled, a subject in which dull children need not feel dull.

At the infant stage, the dull child can join with his fellows in the free dramatic play of the house-corner, and in using the dressing-up box. He will also join in such games as buses, post offices, etc., and playing out nursery rhymes and simple stories.

The problem at the junior stage is more complex, since the child becomes more self-conscious and less ready to try out ideas in case he becomes the butt of the rest of the class.

A good way to handle drama at this stage is to make use of the open classroom space and the hall floor, not the school stage, and to

let the children join in, in a loose group formation. Elaborate properties and costumes are not required. The imagination of the children will supplement any deficiencies in these, and it is an advantage that they should be allowed to exercise their imagination in this way.

(a) A beginning can be made by telling a story and letting the children react as they do in movement and music. They can be a forest waving in the wind, or billows on the shore, or Red Indians stalking through a wood. The dramatic telling of the story is very important, so that the teacher can hold the attention of the group and secure a whole-hearted contribution from the children. This may be preceded by some preliminary training in movement imaginatively conceived and carried out, e.g. by letting the children pretend to be watching flying birds, to fell trees, to pull ropes, etc.

(b) As a progression, the class or group can be divided into two parts, and the outline of the story given so that there is only an indication of what is to come. One group may become the trees in the forest and the others the soldiers riding by. It is important to see that the "trees" have plenty to do and do not get bored.

(c) When individual miming is introduced, the story to be mimed should be well known, e.g. "The Hobyahs", Beacon IV, and other folk-tales as found in Beacon Books III and IV. As a beginning, one individual should have a simple short action to perform and the rest of the group can be the refrain of the crowd.

(d) Speech can be introduced slowly, and the dull child should never be burdened with the task of learning long parts.

Humour and "slap-stick" comedy appeal to juniors, and more serious work should be left until the children and the teacher are at ease with the method.

The miming by the group of everyday actions appeals, e.g. washing in a morning, or two or three children acting out "going on a message" with one in the group as mother, one as the child, and one as shopkeeper. No "props" are necessary at first, but as the speech and ideas flow more fully, the children will use simple materials which are to hand.

The aim should be to eliminate the idea of an audience and let the children become engrossed in acting out a situation.

Various groups will, of course, be trying out their ideas together, so that in a class of forty, with groups of four acting out "Breakfast at Home", ten groups will be working side by side at the same time

When forming groups, the teacher will be wise to include a dull child in a group with more intelligent children who will stir him and help to keep his speech and action going.

10. PUPPETRY

Puppetry can be a big incentive in speech work for dull children. It also gives a stimulus to concentration.

The dull children need simple puppet theatres of card- or hard-board which will fold away, in which they can work out their efforts. The more elaborate theatre will be used only for special occasions where the plays are presented to a class or to the school.

Working out the show informally is the valuable part of the exercise; showing it to an audience is only the incentive to more finished work.

Making the puppets should not be so elaborate that the incentive to use them is lost.

The material chosen for dramatising can be either informal everyday actions, e.g. getting father off to work, or a very well-known story from which children can take the words and phrases verbatim, e.g. "Careful Hans".

Working out the puppetry can be done in groups, perhaps six or seven groups going on at once, and the teacher moving among them with suggestions and encouragement.

Older juniors can often use simple fairy-tales and present them to younger classes, who usually receive the efforts of the dull children much less critically than do their brighter contemporaries. The necessity to keep the performance going, and the visible puppet with which the dull child identifies himself, both help the dull child to concentrate and make his contribution to the whole.

Reference Books

MIME, DRAMA AND PUPPETRY

<i>Title</i>	<i>Author</i>	<i>Publisher</i>
Song and Verse Mimes	H. E. Priestley	Macdonald
Mime for Schools	Chesman and Wiles	Nelson
Plays in Verse and Mime	R. Vallance	Nelson
Practical Miming	G. Pickersgill	Pitman
Mimed Ballads and Stories	G. Pickersgill	Pitman
Mime in Class and Theatre	J. G. Marash	Harrap

<i>Title</i>	<i>Author</i>	<i>Publisher</i>
Dramatic Work with Children	E. M. Langdon	Dobson
The Playmakers	M. Cobby and E. Newton	Pitman
The Drama Merry-Go-Round	E. Newton	Blackie
Acting Games	F. Collins	University of London Press Ltd.
The Teachers' Omnibus of Plays	E. L. Turnbull	Oxford University Press
Dramatic Omnibus	E. Newton	French

B. Reading

I. INTRODUCTION

It has been stated by Schonell that a child needs a mental age of $6\frac{1}{2}$ years before he is able to make a satisfactory beginning in reading. Dull children, therefore, create a special problem for the teacher, since none of them will be ready to read at the infant stage, and only children in the higher levels in the I.Q. range 55-85 will be capable of starting during their first year in the junior school. The following chart gives some indication of the time at which reading can begin for each particular level of intelligence.

TABLE SHOWING COMPARISON OF CHRONOLOGICAL AGE
WITH MENTAL AGE

<i>I.Q.</i>	<i>Junior Class</i>	<i>Chron. Age where Mental Age is $6\frac{1}{2}$</i>	<i>Mental Age on Transfer to Secondary School at 11 years 6 months</i>
60	Fourth year	10 years 10 months	6 years 11 months
*65	Fourth year	10 years 0 months	7 years 5 months
70	Third year	9 years 3 months	8 years 10 months
75	Third year	8 years 8 months	8 years 7 months
80	Second year	8 years 2 months	9 years 2 months
85	First year	7 years 7 months	9 years 9 months

Perhaps an example (*) can explain the use of this table. A boy with an Intelligence Quotient of 65 when he is 10 years old will be in the fourth year, but his Mental Age will be $6\frac{1}{2}$ years. When he leaves the primary school for the secondary school, his Mental Age will be 7 years 5 months. Such a boy would not be expected to begin reading much before the fourth year. On the other hand, the boy with an Intelligence Quotient of 85 should be making a start in reading upon entry to the junior school.

(b) Lay-out: if possible, books with the following features should be adopted in the early stages:

- (i) well-spaced sentences;
- (ii) no line carry-over;
- (iii) good colour in pictures;
- (iv) reasonably-sized clear print;
- (v) "a" and "g" print should be of script type;
- (vi) strip pictures, which help in eye movements.

(c) There should be plenty of supplementaries of the same grade as the main reader, e.g. *Janet and John* series and *My Little Book* supplementaries, to assist consolidation of basic work. Supplementaries of different series, but the same grade, can also be added.

SUGGESTED READING SCHEME

	Books and Apparatus	Publisher
<i>Reading Age 4-5</i>		
Beacon:		
New Approach	Flash cards	
Old Lob	Picture-books	
Beacon:	Sentence-making Cards A and B	
Old Approach	Reading pictures	
Mother and Kitty	Reading cards	
Janet and John	Miniature pictures	
	Introductory book	
	Wall pictures	
	Picture sentence-matching cards	
	Picture word matching	
	Flash cards	
	Word-matching cards	
	Preparatory reading cards	
	Wall pictures and flash cards	
	Introductory book	
	Supplementary: Hide and Seek	
	Also film-strip No. 5007	
	Pre-reading Books 1-4	
	Supplementary Pilot Books S1-S12	
	First Little Books 1-6	
	Activity pictures	
	Infant Reader, Intro., 1, and 2	
<i>Happy Venture</i>		
Pilot		
Kingsway		
<i>Reading Age 5-6</i>		
Beacon:		
New Approach	Reading cards	
Old Lob	At Old Lob's—Introductory Book	
	Word-matching and sentence-building cards (C)	

*Reading Age 5-6*Supplementaries:
Beacon

Janet and John

Happy Venture

Pilot

Kingsway

*Reading Age 6-7*Beacon:
New Approach
Old Lob
Supplementaries:Beacon:
Old ApproachJanet and John
Supplementaries:

Happy Venture

Pilot

Kingsway

*Books and Apparatus*Mrs. Cuddy, Mr. Crump, Miss Tibbs
(Six Old Friends)Infant Reader I Supplementary
(Toys at Play)Word builders, phonic cards
(Red Set)

Here We Go

Supplementaries: My Little Book 1-5

Book I

Supplementary: Storytime
Saturday Play

(Film-strip for Book I is No. 5012)

Pilot Reader II

Infant Reader, Book I

Pilot Booklets S26-S36

Activity Readers I

Infant Reader, Book I

plus Supplementary

Publisher

Ginn

Nisbet

Oliver
&
BoydE. J.
Arnold

Evans

The Move—Book I

Word Book for The Move

My Take Home Book for The Move

A Visit to Updown

What Happened at Updown

Infant Reader II

Phonic cards (Blue Set)

Supplementaries: Clever Folk

Folk Tales

Stories to Act

Off to Play

My Little Book 5-10

Book II

Supplementaries + Escalator Series C

Pilot Reader II

Pilot Dictionary II S49

Pilot Booklets S50-S60

Activity Readers Book 2

Infant Reader

Book 2 + Supplementary

Nisbet

Oliver

&
BoydE. J.
Arnold

Evans

<i>Reading Age 7-8</i>	<i>Books and Apparatus</i>	<i>Publisher</i>
Beacon	Infant Reader Book III Reading Test III Supplementaries: Wise Little Goat Dragon Princess Golden Fish	Ginn
Janet and John	Out and About Supplementaries: My Little Book 11-15	Nisbet
Happy Venture Wide Range Readers	Books III and IV Blue Book I and II Green Book I and II *Escalator Readers Series B	Oliver & Boyd
Pilot	Pilot Reader III and IV Pilot Dictionary III S73 Pilot Booklets S74-S84	E. J. Arnold
Activity Reader Kingsway Read and Remember:	Book 3 Book 3 Introductory	Evans Nelson
<i>Reading Age 8-9</i>		
Beacon	Book III Reading Test Book IV Supplementaries: Faithful Beasts Annancy Stories Beacon Study Reader I I Went Walking Supplementaries: My Little Books 16-32	Ginn
Janet and John	Blue Book III and IV Green Book III and IV *Escalator Series A	Nisbet
Wide Range Reader	Reader 1 and 2 Book I *Supplementaries: 301a-301f	Oliver & Boyd E. J. Arnold
*Pinkwell Family Read and Remember		Nelson
<i>Reading Age 9-10</i>		
Beacon	Reader V Reading Test IV Supplementaries: Seven Proud Sisters Beacon Study II	Ginn
Janet and John Supplementaries:	Through the Garden Gate Blue Group 11-15	Nisbet

Reading Age 9-10	Books and Apparatus	Publisher
Wide Range Reader	Book V	Oliver & Boyd
Coloured Story Books 2a, 4a, 8B, 10B,		Macmillan
*Pinkwell Reader	II and IV	E.J. Arnold
Read and Remember	Book 2	
*Supplementaries:	302a-302f	} Nelson

* Specially for backward readers whose Reading Age is about 2 years below their Chronological Age.

N.B.—Published reading schemes usually include a Teacher's Book which gives full details of how the steps should be followed and how the apparatus should be used.

4. RECORDING PROGRESS

The record of work done should include the following:

- (i) Reading readiness—book table; pre-readers; matching pictures, etc.
- (ii) Basic vocabulary—e.g. Old Lob, Mr. Crump, etc., and flash cards.
- (iii) Three-letter words—cat, rat, etc.
- (iv) Four-letter words—bend, jump; further phonic, etc.
- (v) Consonant digraphs—sh, ch, etc.
- (vi) Double consonants—fl, sn, etc.
- (vii) Long vowels—cane, pine, etc.
- (viii) Vowel digraphs—ai, ay, ee, ea, oi, oy, etc.
- (ix) Other word families.

A simple method of recording the children's progress is to compile a list of their names vertically down the left-hand side of a card, with horizontal spaces for recording the stages they reach, e.g.:

	Old Lob	Mr. Grump	Mrs. Cuddy	Miss Tibbs
John Smith	✓		✓	
Will Tyne	✓	✓	✓	
Joe Wood		✓	✓	✓

5. SPECIFIC DIFFICULTIES AND THEIR TREATMENT

Such remedial methods as are used with normal pupils (see below) should be applied to the dull child, but the chief factor in obtaining progress is a wise appraisal of the child's achievements at each stage of learning.

Remedial work should include:

- (i) Training in word-knowledge, through spoken English.
- (ii) Use of flash cards for unfamiliar words, phrases, and sentences.
- (iii) Practice in rapid location of words or phrases in a sheet of printed matter.
- (iv) Training in keeping records.
- (v) Change of method to stimulate effort.
- (vi) Individual attention at frequent intervals.
- (vii) Generous praise at each stage.

Difficulty

Suggested Treatment

Mispronunciation or confusion over similar consonants or vowels	List of similar words given orally and visually. Practice in recognising letters heard and seen.
Reversals	Exercises involving finger pointing or tracing.
Repetitions (usually emotional cause)	Encourage calmer attack and slower rate. Read aloud with child.
Guessing more difficult words	Better grading of steps. Word games to emphasise phonic analysis and enlarge vocabulary.
Addition or omission of words	Emphasis on meaning. Reading in concert.
Frequent pauses and hesitations	Enlargement of vocabulary. Practice with flash cards of unfamiliar words.
Word-by-word reading	Reduce emphasis on words. Flash cards of short sentences and asking for response which requires understanding of whole sentences.
Excessive vocalisation	Increase training in silent reading. Discourage lip movement.

6. USEFUL METHODS FOR DULL JUNIORS

(a) Blackboard Story

At least one week should be devoted to each story. During that time it should always be on view and frequent reference should be made to it. The following sequence may be used repeatedly in connection with the story each week:

- (i) The teacher reads the story aloud to the children and points to the words she reads.
- (ii) The group reads the story aloud.
- (iii) Individual children read the story aloud; other children prompt the reader when necessary.
- (iv) The children copy the story from the blackboard.
- (v) The children illustrate the story by pictures, models, etc.
- (vi) The children ask and answer, both orally and in writing, questions based on the story.
- (vii) The children are asked to recognise words contained in the story.

(b) Question and Answer Book

Each day, the children take home a simple written question; the answer is written out at home.

(c) Making a Reading-book

Each pupil is provided with a blank exercise book. Each day he is required to write a sentence on the right-hand page and illustrate his sentence by means of a picture on the left-hand page. The reverse of this method can also be used, i.e. the picture follows the sentence.

Each day he reads through the whole of the story composed to date before adding a new instalment. Each story should have the continuous features of a "serial".

(d) Graded Readers and Supplementary Reading Material

Whatever methods a teacher may adopt, her success is measured by the speed with which she brings her pupils to the stage when the printed page grips them. They will then begin to read for the pleasure of learning what a book has to tell them, and when a child has reached this stage eventually, there should be available for him a profusion of books, fairy-tales, animal stories, and rhymes. *Popular comics are not always to be despised.* The substitute material should always be linked to the children's Reading Ages, and plenty of material should be given at each level.

By the age of 11, the dullest child should have begun to read, even if his reading is limited to a controlled vocabulary of words that are recognised and understood. The main aim will be to inculcate in children a liking for reading material within their comprehension.

(e) *Libraries*

Library books should be chosen in which interest should be the chief reason for the choice, although a happy union of vocabulary and interest is difficult.

The interest of older juniors should be maintained by providing reading matter in keeping with their Chronological Ages (school stories, sports papers, thrillers, picture weeklies, etc.), while the language is in keeping with their Reading Ages. The picture-book can arouse the interest of the non-reader by its pictures. At the junior stage, children can be introduced to the value of the public library as a stimulant and as a continuation in the practice of reading, e.g. *Easy Readers for Backward Primary Pupils* in the Collins series.

Correct mechanical reading should be secondary to reading for meaning. Group-reading, individual reading, and teacher-listening methods can all be employed, but it is essential that the reading is linked with the language development and the written work; that is, the teacher must realise early that reading is a means to an end and not an end in itself.

SOME LIBRARY BOOKS

Title	Mental Age (Pre-reading)	Publisher
Colour Photo Books: Locomotives Zoo Animals Our Cattle Our Horses, etc.		Penguin Books
Out of the Ark Series Words and Pictures Picture Tales for Little Folk Picture Words	5+ 5+ 5+ 5+	Warne Warne Warne Wheaton
Picture Tales from Many Lands I can Read a Story Nursery Rhymes Strip Story Reader Beatrix Potter: Peter Rabbit 1-23	6+ 6+ 6+ 6+ 6+	Blackwell Wheaton Evans Cassell Warne
Ring-o'-Roses Series Walt Disney Series Pookie Series Slimtails Series	7+ 7+ 7+ 7+	Cassell Collins Collins A. & C. Black

Title	Mental Age	Publisher
Peewit Books	7+	Wheaton
Picture Dictionary	7+	Cassell
Our Everyday World	7+	Oxford
Adventures of Pinocchio	8+	Wheaton
Junior Adventure Library	9+	Burke
Chameleon Books	9+	Oxford
Every Reader for Backward Pupils	9+	Collins
Longmans' Ready Readers	9+	Longmans

C. Written Work

The easiest symbol for the written word is based on the "ring-and-stick" script. It is suggested that this should be used in the lower part of the junior school, and that no attempt should be made to introduce a child to cursive writing until he has begun to read. Some of the dullest children might not reach this stage until towards the end of their junior school careers. It should be remembered that both cursive and script will be found in any one room, where the class includes dull children.

It should be realised that some children will not progress far beyond the infant stage. Generally, the reading should be a prelude to writing. At the junior stage, once the elements of reading are mastered, drawing, writing, and reading should go hand in hand. At the infant stage, apart from letter patterns, allied with art, the following activities can be used:

- (a) Matching pictures:
 - (i) picture with picture;
 - (ii) picture and word with picture and word;
 - (iii) word with word or picture.
- (b) Copying of words.
- (c) Free drawing with the addition of a word already given by the teacher; diaries, new books and sheets, copying.

Owing to the difficulty of motor control, the use of ink should be delayed as long as possible and at the earliest until the children are 9+, and usually until they are 10+. Legibility and neatness, however, can be obtained. Even though a child be dull, careless or slipshod work should not be tolerated. This applies even to spelling. Whilst a dull child cannot be expected to memorise permanently words in

anything like the numbers achieved by the brighter ones, he can be taught to memorise some, especially if seasonal events, such as Holidays, Christmas, Circus, Shows, etc., are utilised. The blackboard vocabulary for composition preparation and composition can be used for this, and the duller child given a much smaller assignment to memorise. He should reach a Spelling Age equal to his Reading Age.

No child who cannot read (Reading Age 7) can be expected to write a sentence. In the written work for dull juniors, all material should have an interest for him. Some items for the scheme are:

- (i) adding one word to an incomplete sentence, e.g.: Weather Record—"To-day the sky is ____";
- (ii) adding a phrase to a sentence;
- (iii) completing a sentence;
- (iv) making a sentence in answer to a question;
- (v) writing a sentence and illustrating it;
- (vi) making a sentence with (blackboard) aid;
- (vii) adding a few sentences to copied work;
- (viii) writing a postcard;
- (ix) filling up forms and greeting cards:
 - (1) Names and addresses, date, age. Invitations.
 - (2) Postal orders, business replies.
 - (3) Driving licence, money withdrawals.
- (x) describing a simple sequence of events;
- (xi) writing letters.

Care and accuracy in spelling and letter-formation should be demanded of children in all these exercises.

The teacher should give time to essentials only; for example, to teach the child to write correctly his name and address, family names, the days of the months, occupational terms, and to fill up specimen forms. The children should be asked to suggest topics for their written work, and should be encouraged to bring or make their own illustrations. The best attempts should be praised and displayed.

If a set English Book is used, it should coincide with the child's Reading Age and not with his Chronological Age. One well-written piece of formal work, however brief and simple, should be obtained each week, even if a previous effort has been made in rough.

The teacher should try to encourage rather than discourage the

child by his marking, and the decision to mark with the child should depend upon the school, size of class, and age and type of child. Common faults can be dealt with in the class and a simple marking code adopted. Avoid "plastering" with red ink, by giving the child something within his limits and as much blackboard help as possible. Occasionally, a corrected fair copy can be made by the child. Assessment of work should take some concrete form, e.g. stars.

IV. Suggestions for Apparatus

All apparatus should be attractive in appearance, illustrated wherever possible, tastefully coloured, and neatly lettered. Accurate grading of the apparatus can be done only as a result of long usage, but as soon as a teacher is certain of the stage at which a piece of apparatus is most effective, the apparatus should be marked with a distinguishing letter, number or colour.

(1) Comprehension Exercises. Questions which can be answered merely by "Yes" or "No" should be avoided. Illustrations should have a bearing on the extract being studied.

(2) Sequence. *Rupert Annual* books are admirable for such a purpose. These can be dealt with in at least four different ways:

- (a) Caption and picture on same card.
- (b) Captions only on separate cards.
- (c) Pictures only on separate cards.
- (d) Captions and pictures on separate cards.

Progression of difficulty may be introduced by having four, five, six, seven, or eight pictures in a series.

- (3) Flash cards for words, phrases, and simple sentences.
- (4) Labelling of parts of picture—chief "look and say" words.
- (5) Word-sorting games for recognition of phonic units.
- (6) Pictures, with sets of "broken" sentences having a bearing on the picture.
- (7) Completion of simple couplets using words containing some phonic unit.
- (8) Snap cards.
- (9) Illustrated alphabet.
- (10) Matching of clue cards and answer cards.
- (11) Matching of objects and words, e.g. of objects in classroom.
- (12) Pictures of well-known nursery rhymes with "out lines" for construction of the rhyme below the picture.

- (13) Long vowels. Picture and set of words to be placed on appropriate places on picture.
- (14) Group of words containing some digraph. The digraph printed on small square of card and attached by string to larger card of words from which digraph is omitted.
- (15) Filling in missing words:
 - (a) from pictures;
 - (b) from extract;
 - (c) with no help.
- (16) Completion of sentences, first few words given.
- (17) Picture (or group of pictures). Sentence to be written in answer to the questions: "What is it?"; "Who has it?"; "Where?"; etc.
- (18) Pairs (or three or four) of pictures with several complete sentences on separate cards. Match sentences to appropriate pictures.
- (19) Matching phrases, etc., to form sentences, e.g.:
 - "The butcher sells ____."
 - "The gardener uses ____."
- (20) Cards dealing with masculine and feminine.
- (21) Cards dealing with opposites. Words on separate cards—arrange in pairs.
- (22) Picture of one thing necessary for a job. Name the rest (and in later stages, method of using), e.g. Picture of matches. "What else to light a fire?" (Later stage: "How do you make a fire?")
- (23) Different meanings of the same words, e.g. crown, counter, scales. Picture of each meaning. Use in a sentence orally or by writing.
- (24) Words spelt differently but pronounced the same. Cards with two pictures, e.g. pear—pair; pain—pane; plane—plain. Use the sentence.
- (25) (a) Food eaten by—(pictures of horse, fowl, etc.)
 (b) Homes of—(pictures of pig, dog, etc.)
- (26) Reverse of above, i.e.:
 - "What does a ____ eat?" or
 - "What is a ____ home called?" (Pictures of animals.)
- (27) Cards dealing with singular and plural of verbs.
- (28) Similarities or differences, e.g.: picture of "bus" and "car", "table" and "chair", etc.
- (29) General-knowledge cards. Lists of twenty or thirty words.

From the list pick out those things you would buy at a grocer's shop or what you might see on a walk, or which are alive, or have four legs, or which are used in laying a dinner table, etc.

(30) Sentences about tradesmen. Name missing from sentences, e.g. "A — uses a chopper." Further stage, omit both nouns; child finds them from mixed cards.

(31) Pictures of people, e.g. teacher, gardener, tailor, etc. Answer questions: "Where would you find him or her?" "What does he use?"

(32) Picture. Make sentences from box of words

(33) Card with list of occupations, e.g. gardening, needlework, etc. Box of words indicating processes involved in those occupations, e.g. digging, raking, hemming, etc. Sort.

(34) Boxes of words. Classified into shopping words, farm words, etc. Children make sentences.

(35) "Tumblegrams". Large picture. Box of words which can be arranged to make sentences bearing on picture.

(36) Lotto game, using words.

(37) Fitting correct words. Large card with boldly printed sentences with one or two words missing. Box of words from which to choose missing words.

(38) Picture. Names of objects marked on picture. Make sentences using the words. Alternatively, words on cards are first placed on appropriate object in picture.

(39) Picture comprehension. Two stages:

(a) Write two or three sentences about the picture.

(b) Answer questions concerning the picture.

(40) Pictures. Loose cards giving titles of pictures. Match. Write one or more sentences on each.

The above suggestions for apparatus are not graded in any way.

For later stages, use could be made of newspaper reports, advertisements, time-tables, etc., and reading for comprehension could be closely linked with the simple studies in History, Geography, Nature Study, Civics, etc.

V. Conclusion

In English, as in all subjects, it is fully realised that the size and type of school must perforce seriously affect the mode of attack of the teacher. The problems of the school of 1-form entry or less are different from those of the larger primary schools dealing with

two or three streams and, as a result, the teacher must use her discretion in applying the suggestions given above.

In dealing with the dull child, the teacher should not force the pace. If the programme and environment are right, the child will proceed at the rate appropriate to his standard of ability.

In creating the right atmosphere, it is important for the teacher to be patient and cheerful with the dull child and, by evenness of temperament, to smooth out any behaviour difficulties the child may have.

In giving verbal directions, it is necessary to state clearly and slowly what is wanted, and keep the explanation to a minimum.

In all explanation, the teacher should avoid abstract ideas and link conversation to concrete subjects. In providing equipment for the classroom, it will be necessary for the teacher to remember the needs of the dull children, and supply bright illustrations, colourful picture-books, cheerful apparatus, etc., for them.

VI. Reference Books

The Teaching of English

<i>Title</i>	<i>Author</i>	<i>Publisher</i>
The Improvement of Reading	A. J. Gates	Macmillan
Reading in Modern Education	P. Witty	Harrap
Fundamental Reading	F. Roe	University of London Press Ltd.
Psychology and the Teaching of Reading	F. Schonell	Oliver & Boyd
Beacon Teacher's Manual		Ginn
Testing the Essentials of Spelling	F. Schonell	Oliver & Boyd
Scottish Pupil's Spelling Book Teacher's Book	Scottish Council for Research in Education	University of London Press Ltd.
Teaching and Testing English	P. B. Ballard	University of London Press Ltd.
Reading, Writing, and Speech Problems in English	J. Orton	University of London Press Ltd.
Language and the Mental Development of Children	A. F. Watts	Harrap
Backwardness in the Basic Subjects	F. Schonell	Oliver & Boyd

Chapter VI

TEACHING ARITHMETIC

I. Introduction

A. Aims

- (i) To help the child to form a clear idea of number.
- (ii) To make the more common and useful ideas and processes firm and precise through practice.
- (iii) To enable the child to apply the mechanical skill he has acquired to the solution of his everyday problems.

B. The Attitude of the Teacher

To achieve these aims the attitude of the teacher is all-important; it is essential for the dull child that the teacher should have:

- (i) patience;
- (ii) an encouraging attitude;
- (iii) respect for the child as an individual: if the child feels that he is admired for the effort he makes, rather than for the results he achieves, and the class feel the same, then he, as an individual, will learn, and have courage and self-respect;
- (iv) a sense of humour and enjoyment;
- (v) a willingness to give praise whenever possible.

C. The Capabilities of the Pupil

The teacher will need to bear in mind that the work of which a child is capable will depend on:

- (i) *his mental age*. Therefore, she should make use of the following tables as a guide when setting standards of attainment.

An Intelligence Quotient may be obtained for any child, even one who cannot read, by giving him a non-verbal Intelligence Test, such as the Mellone Picture Intelligence Test (published by Moray House), obtainable through E. J. Arnold.

THE CHILD WITH A CHRONOLOGICAL AGE OF 7·5 YEARS
(Average age of transfer to Junior Dept.)

With an I.Q. of 55 has a Mental Age of 4·1 years only

”	”	I.Q. of 60	”	”	”	”	”	4·5	”	”
”	”	I.Q. of 65	”	”	”	”	”	4·9	”	”
”	”	I.Q. of 70	”	”	”	”	”	5·3	”	”
”	”	I.Q. of 75	”	”	”	”	”	5·6	”	”
”	”	I.Q. of 80	”	”	”	”	”	6·0	”	”
”	”	I.Q. of 85	”	”	”	”	”	6·4	”	”

THE CHILD WITH A CHRONOLOGICAL AGE OF 11·5 YEARS
(Average age of transfer to Secondary Modern School)

With an I.Q. of 55 has a Mental Age of 6·4 years only

”	”	I.Q. of 60	”	”	”	”	”	6·9	”	”
”	”	I.Q. of 65	”	”	”	”	”	7·4	”	”
”	”	I.Q. of 70	”	”	”	”	”	8·0	”	”
”	”	I.Q. of 75	”	”	”	”	”	8·6	”	”
”	”	I.Q. of 80	”	”	”	”	”	9·2	”	”
”	”	I.Q. of 85	”	”	”	”	”	9·7	”	”

(ii) *his home background* and the amount of number experience given to him by his parents;

(iii) *his medical history*. A child who has long periods of absence due to serious illness may be backward, as well as dull;

(iv) *his own temperament*. A few dull children have good powers of concentration and show determination, whilst others may be unable to make any sustained effort.

II. The Scope of the Subject

Counting is the basis of all formal number work. This should be followed by notation, and the children should be given ample practice in reading and writing numbers as they are recognised. The children may then progress to addition, and their work in this should be carefully graded to ensure that no initial stage is excluded. As a guide, teachers are advised to study pages 22-5 of *The Diagnosis of Individual Difficulties in Arithmetic*, by F. J. Schonell (Oliver & Boyd).

As with the normal, so with the dull child, the infant stage is one of gathering experience. *The difference lies in the need for longer*

experience on the part of the dull child. The first stage in the inculcation of number is the building up of a number vocabulary: how many spoons, etc., requests for a number of articles—four balls, two books, number games and rhymes. All these help to build up an initial number vocabulary. Then free play with bead frames and counters builds up number concepts. Then again, ideas of spatial relationships can be developed from playing with sand and water, filling bottles and tins, and playing with bricks. Shopping and playing with coins form a basis for future calculation in money. The dull child needs a carefully planned programme of this nature at the infant stage, which should be continued without a break into the junior stage.

Arithmetic lessons should not consist merely of the manipulation of abstract symbols or the rote-learning of tables and number bonds, but should deal also with those everyday situations which involve number operations, money transactions, and actual weighing and measuring. The problem of presenting Arithmetic to the dull pupil to enable him to appreciate that it is an essential and necessary part of life is not easy. In view of the limited need for calculation in his adult life and his limited ability, long and complicated arithmetical processes should be avoided; but in all the processes attempted, however restricted their scope, accuracy is of primary importance. In the past, too much emphasis has been placed on *number*. *Shape, size, position, direction, and time* are important concepts which have been neglected.

It is urged that activity experiences in measuring and weighing should form an important part of teaching Arithmetic to all children, but especially to the dull. Practical experience should always be in advance of formal work. The dull child should be able to count numbers he cannot write, and with the help of apparatus perform exercises in addition and subtraction which he would be unable to perform without apparatus.

Through practice in using their own units of comparison—hand-breadths and paces for measuring, and acorns or matches for money—children learn to understand the need for standardising units (the history of our English measures is an interesting side-study). This practical experience demands specially devised apparatus. Advantage should be taken of suitable manufactured apparatus when this is available; there will, nevertheless, always be a need for home-made apparatus.

There should be continuous drill in the addition, subtraction, multiplication, and division tables until they become automatic, the scope of the drill being gradually extended.

It is essential that the child should not be hurried, and that he should gain confidence at each stage before he moves to the next.

III. Standards

In conjunction with the tables of Intelligence Quotients on the preceding pages, it is necessary to have some indication as to the standards which might be expected from these children at the Chronological Ages of 7.5 years and 11.5 years respectively.

A. At 7.5 Years

1. The child of 7.5 years with an Intelligence Quotient of 55 has a Mental Age of 4.1. It is suggested that he should be able to:

- (a) count to 5;
- (b) recognise groups and probably numbers to 5;
- (c) know the difference between big and small, thin and fat, heavy and light, quick and slow.

2. The child of 7.5 years with an Intelligence Quotient of 85 has a Mental Age of 6.4 years. It is suggested he should be able to:

- (a) add and subtract to 10;
- (b) recognise figures to 20 and understand them;
- (c) know the composition of numbers to 10 (composition of a number means making that number by adding smaller numbers);
- (d) know the number bonds to 10;
- (e) Money—recognise $\frac{1}{2}$ d., 1d., 6d., 1s.;
- (f) Time—probably recognise bed-time, and 12.0 noon, if there is a clock in the classroom;
- (g) Weight—match a quantity with a given quantity;
- (h) Length—use yard-sticks and foot-sticks;
- (i) Capacity (pints and gills, etc.)—use these measures to find capacity, e.g. which holds most?

B. At 11.5 Years

1. When the child with an Intelligence Quotient of 55 reaches the Chronological Age of 11.5 years, his Mental Age will be 6.4 years; the standards for children of this Mental Age have already been defined in A. 2. above.

2. For the child of 11.5 years whose Intelligence Quotient is 85

and whose Mental Age is, therefore, 9.7 years, the following standards are suggested:

- (a) Addition and Subtraction to 1,000.
- (b) Multiplication and Division within the tables.
- (c) Addition and Subtraction of money to £10.
- (d) Multiplication and Division of money inside the tables; halfpennies and farthings.
- (e) Simple reductions to £1.
- (f) Length—Simple exercises in yards, feet, and inches inside the usual tables. Furlong, chain, and miles to be known by milestones, cricket pitches, running tracks, etc.
- (g) Weight—Simple exercises in pounds and ounces; experience with and estimation of larger weights (such as selecting the larger of two weights); weighing out ounces, half-pounds, and quarter-pounds; handling a 14 lb. weight.
- (h) Time—Time-telling; rhyme for number of days in the month; meaning of a.m. and p.m.; journeys worked out from bus time-tables.
- (i) Capacity—Use of measures, and tables of capacity to a gallon. (Local usage to determine if gills be taught.) Easy addition and subtraction.
- (j) *Spatial Knowledge*—Work with cardboard shapes, such as a square, circle, and triangle, and their simple fractions; simple bookcraft; pattern-making, using various shapes; fitting tiles into trays; paper-folding and cardboard models; fitting solid bodies, such as cubes, into hollow cubes and boxes; playground and indoor measurements connected with rectangles, working north, south, east, and west lines.

The aim for each individual child can best be ascertained by measuring his Mental Age by means of a test of general intelligence. His attainment level in Arithmetic, i.e. his Arithmetic Age, should correspond with this. If a child is found to have a Mental Age of 7 years, he should be able to work an appropriate standardised attainment test in Arithmetic for normal children of that Chronological Age.

Standards in number vary widely according to home environment, e.g. children from poorer homes, where they run errands and frequently do the shopping, may reach higher standards than children from perhaps culturally better homes where such demands are not made.

C. Standards for Children with Intelligence Quotients of 55 and 85 respectively at their various Chronological Ages

I. With an Intelligence Quotient of 55

Chron. Mental

<i>Age</i>	<i>Age</i>	<i>Number Development</i>
5.5	3.0	Group rhymes; general games. Early sense training.
6.5	3.6	Training apparatus for Nursery Children, posting box, sleepers, insets, four little pegs, etc.
7.5	4.1	Group rhymes. Formation of number vocabulary. Recognise and count to 5. Experience in sorting shapes, colours, etc. Play with sand and water.
8.5	4.7	Experience in lifting objects, as an introduction to weight. Recognise numbers and count to 10. Shopping with pennies. Weighing and selling of pennyworths.
9.5	5.3	Measuring of pennyworth. Addition of numbers 1-5. Decomposition of numbers 1-5. Add and subtract to 10. Halfpence; money to one shilling.
10.5	5.8	Weighing in ounces. Counting in hours. Numbers to 20. Add and subtract to 10. Money to 1s. 6d. Measuring in yards.
11.5	6.4	Experience with weights and measures. Number bonds to 10. Add and subtract to 10. Recognition $\frac{1}{2}$ d., 1d., 6d., 1s. Recognise bed-time, noon, etc. Match a quantity with a given quantity. Use of yard-sticks. Use of pints, quarts, gills.

2. *With an Intelligence Quotient of 85*

Chron. Mental

Age Age

Number Development

5.5	4.7	Count values and figures to 5. Number rhymes. Toys for sorting and grading. Experience in lifting and balancing. Play with sand and water. Measuring activities introduced.
6.5	5.5	Addition and subtraction of numbers to 5. Counting to 20 Pence only in shopping. Meaning and selling of pennyworths. Sorting, etc. Colour dominoes, games. Measure pints, quarts.
7.5	6.4	Addition and subtraction of numbers to 10. Number concepts to 20. Composition of numbers to 10. Number bonds to 10. Recognise $\frac{1}{2}$ d., 1d., 6d., and 1s. Recognise bed-time, noon, etc. Able to weigh ounces and pounds. Use of yard-sticks. Using measures—Which holds most?
8.5	7.2	Introduction of nought. Addition and subtraction to 20 (probably tens and units). Place-values to 100. Addition and subtraction, shillings and pence to 5s. Measuring in half-inches. Use of quarter-pound weights. Use of gill. Time—"quarter to", "quarter past", and "half past".
9.5	8.1	Hundreds, tens, and units, four rules. Four rules in shillings, pence, and farthings. Measuring in yd., ft., and in.

2. *With an Intelligence Quotient of 85 (contd.)*

Chron. Mental

Age	Age	Number Development
9.5	8.1	Use of bathroom scales.
		Counting in five minutes round the clock.
		Weighing parcels, etc.
10.5	8.9	Number as before.
		Four rules inside tables.
		Long multiplication of numbers.
		Four rules inside tables of £ s. d. (not more than 12s. in shillings column).
		Four rules in measures in two steps only.
		Ft. and in.; lb. and oz.; gal., qt., and pints.
		Time-telling.
11.5	9.7	Add and subtract to 1,000.
		Multiplication and division inside tables.
		Long multiplication of numbers.
		Four rules in money inside tables including halfpennies and farthings.
		Simple reduction to £1.
		Four rules in the measures in three steps: st., lb., oz.; yd., ft., in.

IV. Methods of Teaching

1. The standard mechanical processes in the four rules in number should become automatic habits. There is no need for the dull child to understand the reasons for the steps in every process. Whichever way he is taught, he will carry out the processes by rule of thumb and, therefore, emphasis should be placed upon the formation of habits. Skill in manipulation should not be developed beyond the needs of the practical problems which are within his range of experience.

Examples must be carefully graded. These graded steps should be so skilfully chosen that the child gains a feeling of confidence in himself. The ability to break down a process into a series of easy steps is one of the essential qualities of good teaching. Oral work is

most important, and it is a good general practice to include in each lesson a period of brisk oral questioning—sometimes requiring written answers—so that the children imperceptibly begin to acquire a vocabulary of Arithmetic.

2. The project method encourages children to work out calculations which they themselves require to enable them to make something or to understand a real situation. This is excellent for dull children, and is the best stimulus that can be used to give meaning to Arithmetic. The first limitation of this method is that it is difficult to teach a process unless the preliminaries have already been dealt with. The second is that if a project is used as a pretext for introducing Arithmetic which is not necessary to its completion, then the interest in the project will flag, or the child will recognise its artificiality. Therefore, the Arithmetic to be taught should not be confined only to what can be introduced through the project method.

3. The use of practice cards and, at the later stages, of text-books, has much to commend it, as long as the books or the cards do not become ends rather than means and engender a determination in the teacher to finish every example, come what may.

The features to be looked for in a good Arithmetic text-book are as follows:

- (a) Clear, well-spaced type.
- (b) Attractive illustrations, preferably in colour.
- (c) Not too much material on each page.
- (d) Instructions, where they are necessary, expressed in simple and direct language which the dull child can understand.
- (e) A finely graded development, with generous revision at all stages through a wide variety of examples.

4. Marking presents a problem. The work of a child must be carefully checked by the teacher, but the child must be permitted to find out by himself, either by practical means or from the answer book, whether his solution to a problem is right or wrong. Usually, any problem worked incorrectly should be repeated after the mistake has been analysed.

5. Successful teaching will be characterised by foresight in grading the work, prompt and accurate marking, the diagnosis of errors, keeping records of many kinds, display of charts showing progress, practical speed tests and revision tests, exhibitions of pupils' work

of especial merit, the provision of opportunities for each pupil to experiment individually, and the commendation of effort.

If the work is appropriately graded, in accordance with their ability and experience, the children should be expected to get their sums right. Continuity in the methods of performing basic processes should be established and maintained throughout the pupil's school life.

Arithmetic lessons should include:

- (a) the repetition and testing of tables and number bonds;
- (b) oral work in problem and mental Arithmetic, as well as one or more of the following:

Introduction of new work, as necessary, to a section of the class.
Practical work.

Mechanical work.

N.B.—The teacher should guard against any lesson becoming one-sided on either the written or the oral side. It is impossible to over-emphasise the need for constant revision of all previous work.

6. Every school should contain: yard-sticks, foot-sticks; rulers in inches and quarters, carpenter's rule and engineer's rule; tape measures glued on the wall—one horizontally and one vertically; grocer's scales, letter balance, bathroom scales; bucket with gill, pint, and quart measures; square foot and square yard; one-inch cubes; jars containing quantities of varied counters, i.e. peas, beans, beads; a ball frame, a Montessori square, etc.

V. Suggested Stages in Early Number Teaching

- Stage 1.—Informal experience—pre-school, or derived from spontaneous play in or out of school.
- Stage 2.—More specific experience. Sorting.
- Stage 3.—Development of number vocabulary. Number rhymes and games.
- Stage 4.—Recognition of numbers 1-5.
- Stage 5.—Recognition of numbers 1-10.
- Stage 6.—Addition of numbers 1-5.
- Stage 7.—Decomposition of numbers 1-5.
- Stage 8.—Addition of numbers 1-10.
- Stage 9.—Decomposition of numbers 1-10.
- Stage 10.—Introduction of nought.
- Stage 11.—Consolidation of number bonds 1-10.

Stage 12.—Recognition of numbers to 20, including place-values (tens and units).

Stage 13.—Addition of numbers to 20.

Stage 14.—Decomposition of numbers to 20.

Stage 15.—Place-values to 100.

Stage 16.—Addition of tens and units.

Stage 17.—Subtraction of tens and units.

Stage 18.—Introduction to multiplication tables.

Stage 19.—Multiplication of tens and units.

Stage 20.—Division of tens and units.

SUGGESTED STAGES IN EARLY NUMBER TEACHING

Throughout this part of the book, reference is made to various activities involving the use of apparatus. Fuller descriptions of this apparatus, with illustrations, may be obtained from the catalogues of suppliers, such as Messrs. Philip & Tacey, E. J. Arnold, Thomas Hope, or the Educational Supply Association.

Specific examples of apparatus from various catalogues are given below. These examples are not meant to be exhaustive or to include only the best available.

Stage 1. Informal Experience

1. COUNTING GAMES

(*Sixty Number Games for the Infant School*, by J. Spencer, Macmillan.)

Fishing	page 4	Guess	page 8
Rolly-ring	page 5	The Farmyard	page 9
Who is wanted?	page 6	Skittles	page 10
Bowls	page 7	10 Balls a Penny	page 11

If the teacher is not available, it will probably be necessary to put a helpful brighter child in charge.

2. INCIDENTAL COUNTING

Examples:

Number of boys present, number of girls present.

Three Bears, one Goldilocks.

Number of children staying to dinner.

Bottles of milk needed for each table.

Boys wearing ties, children with handkerchiefs.

Tables, chairs, pencils, etc.

Counting steps—take four steps then stop, jump five times then stop, give two claps, hop twice.

All these can be done either as a class or a group activity during the Number period, or as the occasion arises during the day.

R. 137. *Skittles*.—A set of nine polished hardwood skittles 8 in. high, and two balls.

R. 17. *Bead-threading Tablets*.—Three sets of cardboard discs, 1 in. diameter, printed with numbers 1-12, punched for threading. Can be used to number skittles for more advanced scoring.

(Educational Supply Association.)

Stage 2.—More Specific Experience of Number

1. BY SIMPLE SORTING OPERATIONS

See *Arithmetic in Action*, page 22 (Brideoake and Groves, University of London Press Ltd.).

(a) *Sorting*.—Use is made of sorting-boxes containing a collection of everyday odds and ends, pieces of chalk, paper clips, cotton-reels, buttons and studs, etc.—at first one variety of button, one size of stud, etc.—later to be developed. The child has a brightly enamelled tray and into this he sorts materials into piles.

(b) *Big and Little*.—The first step in grading is provided by an attractive box of toys, “big and little” dolls, ships, trains, teddy-bears, and trumpets. The teacher draws a chalk line down the centre of the table and the child puts his “big” toy on one side, and his “little” toy on the other.

(c) *Heavy and Light*.—The child is given two boxes identical in appearance, one of which is “heavy” and one “light”. These are sorted on to a “heavy side” and a “light side”. Cocoa tins, mustard tins, cheese boxes, sweet bottles, as well as cardboard boxes filled with varying quantities of sand to make the difference very real, are also used.

(d) *Many and Few*.—The child is given two cards containing buttons, or hooks and eyes, or press studs, etc. One card holds “many”, while the companion card bears “few”.

He may be given two packets of envelopes, post cards, etc. One packet contains “many”, the other “few”.

(e) *Long and Short*.—He is given “long” and “short” strips of card, pencils, wooden strips, etc.

(f) *Quick and Slow*.—In movement in school, in dancing, and other physical activities.

2. DOMINO GAMES

(a) *Coloured Dominoes*.—Child plays alone, matching colours.

Coloured Card Dominoes—size of box $5\frac{1}{2}$ in. \times $2\frac{3}{4}$ in. A set of twenty-eight stout-card coloured dominoes in strong cardboard box. Another interesting game for scholars, introducing Colour Matching. (Philip & Tacey.)

(b) *Picture Dominoes*.—Played alone.

Pictorial Dominoes.—Packed in a durable card box, twenty-eight cards in set comprising six attractive little pictures printed in colour on stout card. (Philip & Tacey.)

(c) *Symbol Dominoes*.—Having each value-group differentiated by easily recognisable formal symbols. Printed on card and supplied in box. (Philip & Tacey.)

Stage 3.—Development of Number Vocabulary: Number Rhymes and Games

Number rhymes and games may be found in the following books:

Title	Author	Publisher
The New Realistic Approach to Number Teaching Number Rhymes and Finger Plays	D. Williams Boyce & Bartlett	Oxford Pitman
The Teaching of Arithmetic The Book of a Thousand Poems	A. Montcith Ed. J. M. McBain	Harrap Evans
Number Rhymes	R. Fyleman	E. J. Arnold

Examples will also be found in most collections of nursery rhymes.

Stage 4.—Recognition of Numbers 1-5

1. THROUGH DOMINOES WITH COLOURED SPOTS

The child may play alone unless he shows signs of being ready for a companion.

R. 110A. *Floor Dominoes*.—A complete set of fifty-five dominoes, of hardwood, size 6 in. \times 3 in. \times $\frac{1}{2}$ in. thick, finished clear cellulose.

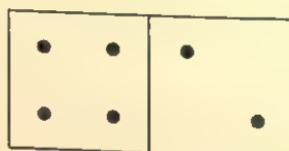
with domino patterns from double blank to the double nine painted in red. In jointed hardwood box to fit.

R. 110B. *Floor Dominoes*.—Similar to the above but with twenty-eight dominoes, from the double blank to the double six only.

R. 111. *Coloured Dominoes*.—A set of twenty-eight wooden dominoes, size $1\frac{3}{4}$ in. $\times \frac{7}{8}$ in., painted black, with different-coloured domino groups.

R. 124. *Large Dice*.—White, plastic dice, size $\frac{7}{8}$ in., clearly marked with black recessed dots. (Educational Supply Association.)

2. STANDARD DOMINOES



Printed on card and supplied in box. Size 3 in. $\times 1\frac{1}{2}$ in. (Philip & Tacey.)

It is felt that the arrangement of the symbols forming the picture of a number is not important, but it is important to keep to the same arrangement as far as possible, e.g. 5 may be represented thus:



It is suggested that the domino picture will prove most useful as the domino game comes into the child's games.

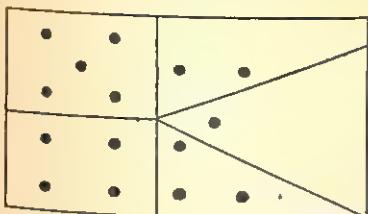
3. GAMES

(*Sixty Number Games for the Infant School*, Macmillan, pp. 12-34).

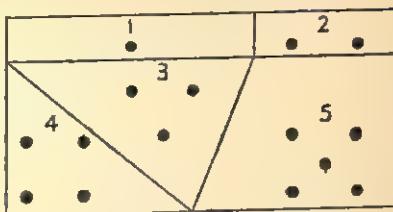
(a) Matching games.

(b) Darts played as a floor game with bean bags—pictures only used at first—the child to take out a corresponding number of counters.

STEP I

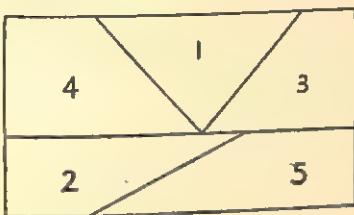


STEP II



Page 25, *Sixty Number Games for the Infant School* (adapted).

STEP III



(c) The Postman—used with small groups:

(a) Numbers with pictures to 5.

(b) Numbers to 5.

(c) Numbers and pictures to 10.

(d) Numbers to 10.

(d) I Spy (*Sixty Number Games for the Infant School*).

(e) Watch and Do (*Sixty Number Games for the Infant School*).

(f) What Have I Written?, etc. (*Sixty Number Games for the Infant School*).

(g) Through a number sorter.

R. 92. *Number Sorter*.—A thick plywood board, 16 in. long, with dowels firmly fixed upright in groups from 1 to 5, and five sets of coloured tablets which fit over the dowels. A simple self-corrective sorting toy. (Educational Supply Association.)

(h) Through the use of number-sorting trays (1-5, 6-10, 1-10) of various patterns. (Philip & Tacey).

R. 97. *Number-sorting Tray*.—Printed in colour on plywood. An apparatus for counting and recognition of number groups and symbols. Length of tray 19 in. Tablets size $3\frac{3}{4}$ in. \times $3\frac{1}{2}$ in.

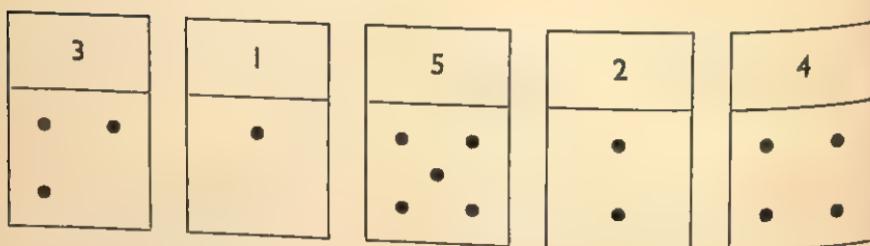
A. Numbers 1-5.

B. Numbers 6-10.

(i) *Number Box*.—For matching values to symbols. Compartmented box and thirty pictorial cards. There are three different pictures to each of the ten figures. Greatly helps the number sense. Over-all size of box $7\frac{1}{2}$ in. $\times 11\frac{1}{2}$ in. (Philip & Tacey.)

(j) *Beginning Formal Number Practice*.—Strips made by the teacher—matching sections to put over the top.

1	2	3	4	5
•	•	• •	• •	• •
	•	•	•	•
		•	•	•
				• •



(i) Given loose cards containing "pictures" with figures, the pupil superimposes them in the appropriate spaces on the card.

(ii) Given a card identical with the one above but without the figures, the child is asked to match figures to each "picture".

(iii) Given a card identical with the one above, but this time without "pictures", the child is asked to match "pictures" to the figures.

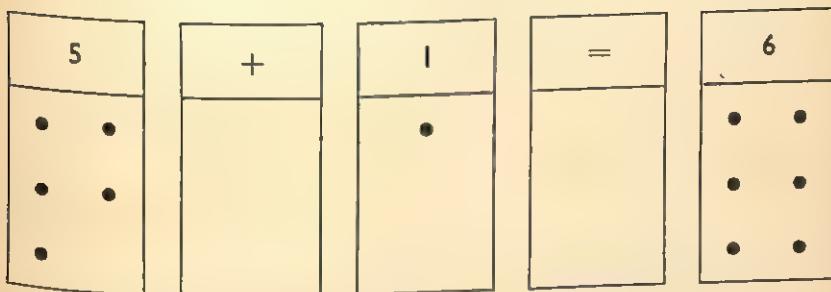
(iv) The exercises in (b) and (c) are repeated in random order.
(v) Similar exercises to those described above may be provided for the numbers up to 10 or 12.

(k) *Copying and tracing figures*.

Sums.—The first steps, especially for the very dull, should include copying sums and writing down "answers".

The children are supplied with a complete card and with separate tickets, as illustrated opposite:

5	+	1	=	6
• • • •		•		• • • •



(i) The first activity of the children consists merely of matching the figures and "pictures" correctly and thereby discovering and reading the answer.

(ii) The children are then provided with cards having only the figures and signs. They then make matching "pictures", using beads or counters, and read off the answer.

(iii) As above—to transfer the two "parts" to the answer—to recognise, not count.

(iv) Finally, the children are given figures only, without "pictures".

4. NUMBER PUZZLES

Colet Figure and Value Occupation.—A set of ten cards, approximately 6 in. \times 3 in. cut into halves, each respectively printed with a figure and its corresponding value. The pairs are cut differently, thus making the exercise self-corrective.

R. 109. *Number Puzzle.*—A self-corrective apparatus for recognition of number symbols and counting from 0 to 10. Printed in colour on plywood tablets 6 in. \times 3 in.

R. 113 *Corrective Apparatus.*—Similar to the above, but with spots arranged in domino grouping, printed on hardboard tablets. Size 5 in. \times 2½ in. (Educational Supply Association.)

Stage 5.—Recognition of Numbers 1-10

As in Stage 4, but using numbers 6-10, with revision of the previous stage, and using suitable apparatus which is available from the Educational Supply Association.

(a) R. 112. *New Additive Apparatus*.—A self-corrective apparatus for sorting and counting. A set contains fifty-five plywood picture tablets size $2\frac{1}{2}$ in. \times 2 in.—1-10 of ten different subjects. The tablets fit into grooves in plywood boards printed with numbers.

(b) R. 103. *Nine Holes*.—Plywood tablets, size $4\frac{1}{2}$ in. \times $2\frac{1}{2}$ in., each printed with a number, and bored with nine holes, together with fifty-five plastic pegs. An apparatus to test counting and recognition of numbers 1-9.

(c) R. 180. *Number Sorting Boxes 1, 2, 3*.

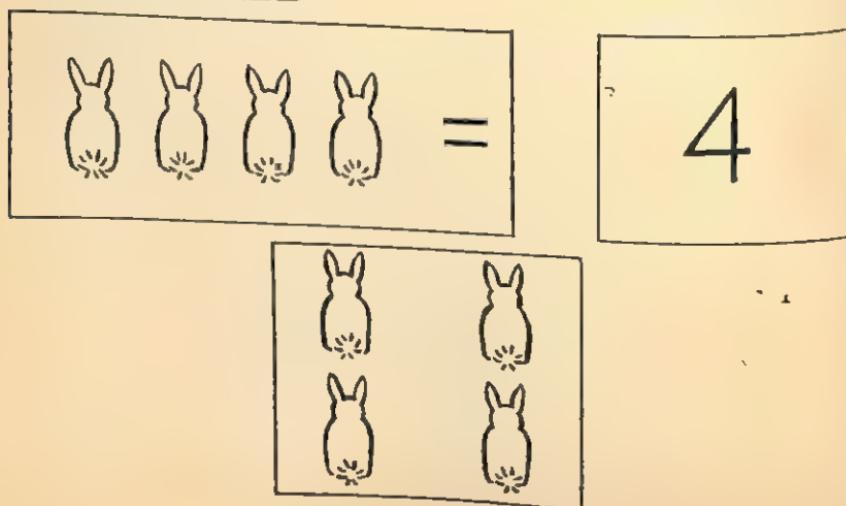
Box 1—Material for Two Children. Contains ten cards $2\frac{1}{2}$ in. square, printed with picture groups, two each of numbers 1-5, and number tickets for matching.

Box 2—Material for Two Children. Contains two each of number tickets 0-5 and thirty-six picture counters to be arranged in groups beside them.

Box 3—Material for One Child. Similar to Box 2, but containing sixty picture counters and one each of number tickets 0-10.

Stage 6.—Addition of Numbers 1-5

1. *THE LOWER DIAGRAM SHOWS REVERSE SIDE OF ANSWER CARD*



First of all on cards using pictures only. When counted, total is found on separate card and put in place.

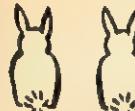
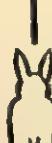
N.B.—Do not put more than five cards in a packet, as that will be sufficient for a slow child to sort.

2. PICTURES, ANSWER WITHOUT PICTURE ON REVERSE SIDE

3. CARDS INVOLVING BOTH PICTURE AND NUMBERS TO MATCH

$1 + 2 =$ 	
--	---

4. CARD WITH MORE THAN ONE SUM

$2 + 1 = 3$  
$1 + 1 = 2$  
$3 + 2 = 5$  

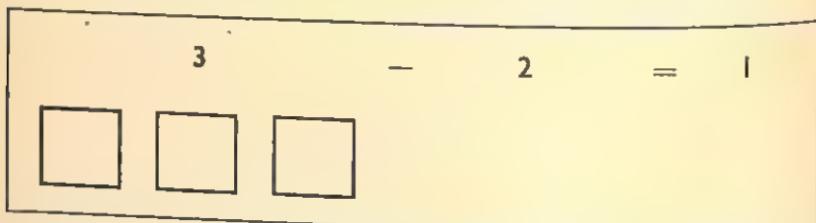
These could be copied on to boards or large sheets of paper.

5. SUM CARDS WITH NUMBERS ONLY ON

Colet: 1-5 Cubes Stair.—A fascinating toy. The base is surrounded by five wooden poles of varying height. Each carries a number of large cube beads, according to the number on the base. A peg accompanies each "column" for the purpose of addition or subtraction. Size 11 in. \times 4 in. \times 9 $\frac{1}{2}$ in. (Philip & Tacey.)

Stage 7.—Decomposition of Numbers 1-5

1. USING CARDS WITH PICTURES AND NUMBERS



To be used with loose counters, the appropriate number of counters being removed.

2. SUM CARDS WITH NUMBERS ONLY

Stage 8.—Addition of Numbers 1-10

Visual and concrete aids will still be of vital importance.

HELPFUL CHARTS

1. A LIVELY WALL FRIEZE 1-10, with picture pattern to conform to the one chosen, in units of either 2's, 3's, or 5's. (Pictorial Number Chart Book.)

2. A "TEN" CHART

5	+	5	=	10
6	+	4	=	10
7	+	3	=	10
8	+	2	=	10
9	+	1	=	10
10	+	0	=	10

3. *THE SOUTHLANDS DEMONSTRATION PEG AND NUMBER BOARD*

This board has been produced to enable teachers to deal with values 1-10 in a practical, simple manner related to the children's own desk work.

Made of stout plywood throughout, with twelve pegs (six each red and blue). Size $17\frac{3}{4}$ in. \times $9\frac{3}{4}$ in. Pegs 1 in. diameter. Will form all number groupings. (Philip & Tacey.)

4. *CHARTS TO SHOW NUMBER BONDS* making numbers to 10.

5. *PICTURE ADDITION (MATERIAL FOR FOUR CHILDREN) R. 183*

A set contains four background cards, 8 in. \times 14 in., each with a corresponding set of twelve picture counters. To work the sums printed down the centre, arrange picture counters on the background card as indicated and count them. The sum when worked can be copied or an answer ticket used. The sums printed on the background card use numbers up to 10; a supplementary set of sum cards using numbers up to 12 is included.

Set 1.—Contains answer tickets for this set. R. 189.

(Educational Supply Association.)

6. *LIVELY SUM CARDS* carefully graded to include all number bonds.

A carefully graded progressive series of simple number exercises, comprising thirty-nine cards (printed both sides with five sums on each) arranged in thirteen grades (three cards in each).

Each card is $9\frac{3}{4}$ in. \times $6\frac{1}{4}$ in., printed in two colours. The figures are printed in bold script.

Grade A Addition (Pictorial).

B. Addition (Dots).

C. Addition (Missing Quantities—Dots).

D. Addition (Numerals only).

E. Addition (Missing Quantities—Numerals).

F. Subtraction (Dots).

G. Subtraction (Missing Quantities—Dots).

H. Subtraction (Numerals).

Grade I.

- J.* Subtraction (Missing Numerals).
- K.* Multiplication (Simple).
- L.* Multiplication (Missing Numerals).
- M.* Division (Simple).
- N.* Division (Missing Numerals).

Per Grade (three cards) in envelope, 7d. plus 2d. p.t.

Per Set (thirty-nine cards) 7s. plus 1s. 10½d. p.t. (Philip & Tacey.)

Stage 9.—Decomposition of Numbers 1-10

1. A "ten" strip is a useful piece of individual apparatus for both addition and subtraction, as the child can see the answer in front of it as it adds or subtracts.

1	2	3	4	5	6	7	8	9	10

(Counters are placed out one on each space, different colours being used for the different numbers which are to be added.)

2. Again, simple games well within the child's power will help, e.g. Tiddly-winks.

Number Tiddly-winks. R. 129.—Can be used as a simple scoring and adding game for two children, or for building simple addition sums. The plywood board, size 10½ in. \times 8½ in., is printed with coloured squares and numbers 0-5. Two large and four small counters are included.

Number Tops. R. 122.—Hexagonal tops, 4 in. diameter, made of plywood with spindles for spinning. The upper surface of each top is divided into six sections, in each of which is printed a number. After spinning, the tops stop with one side touching the table and children enjoy making up sums by adding the numbers at which the tops stop. Subtraction sums can also be worked. There are four tops, each with a spindle.

- A. Numbers 0-5.
- B. Numbers 5-10.
- C. Numbers 1-6.
- D. Numbers 7-12.

Number Lotto. R. 140.—The old game of "Lotto", enjoyed by generations of children, has been adapted for use in number

lessons. Number Lotto games give children practice in working simple number combinations. The sets are arranged by Miss Elizabeth Brideoake, and their use is described in *Arithmetic in Action* by Elizabeth Brideoake and Irene Groves, published by the University of London Press Ltd.

R. 130. *Number Put and Take*.—A very simple game for two children, giving practice in adding and subtracting. The plywood board, size 12 in. \times 6½ in., is printed in colour with two sets of twenty-five squares. A wooden dice printed with addition and subtraction directions, and two-colour counters, are included. The children in turn throw the dice and in turn follow its directions to put on or take off counters from their set of squares.

Stage 10.—Introduction of Nought

This may be taken as a separate stage after the composition of numbers 1-10 has been thoroughly learnt.

On the other hand, it could be introduced at one of the earlier Stages, e.g. at Stage 5 or Stage 6; as follows:

STAGE 5

2	+	0	=
3	+	1	=
2	+	2	=
3	+	0	=
*			

4	-	2	=
4	-	0	=
5	-	3	=
5	-	0	=

It could, however, be introduced as a separate stage at this point, as follows:

6	+	0	=
8	+	0	=
4	+	0	=

Stage II.—Consolidation of Number Bonds

SIXTY-SIX WAYS OF MAKING NUMBERS TO TEN

0 + 0	0 + 6	4 + 4
0 + 1	5 + 1	9 + 0
1 + 0	1 + 5	0 + 9
1 + 1	3 + 3	8 + 1
2 + 0	4 + 2	1 + 8
0 + 2	2 + 4	7 + 2
3 + 0	0 + 7	2 + 7
0 + 3	7 + 0	6 + 3
2 + 1	6 + 1	3 + 6
1 + 2	1 + 6	5 + 4
0 + 4	3 + 4	4 + 5
4 + 0	4 + 3	10 + 0
1 + 3	2 + 5	0 + 10
3 + 1	5 + 2	1 + 9
2 + 2	8 + 0	9 + 1
0 + 5	0 + 8	8 + 2
5 + 0	1 + 7	2 + 8
2 + 3	7 + 1	3 + 7
3 + 2	6 + 2	7 + 3
4 + 1	2 + 6	6 + 4
1 + 4	5 + 3	4 + 6
6 + 0	3 + 5	5 + 5

Suggested Methods

- (i) Combination of sum cards containing many repetitions.
- (ii) Addition and subtraction tables.

These should be made automatic, but opinion varies as to the best method of learning number bonds.

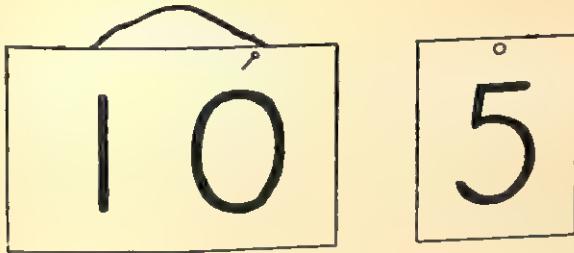
A useful piece of apparatus is that suggested on page 228 of *Learning and Teaching in the Infant School*—Hume.

The number bonds are vital to good, accurate work in Arithmetic and must be learned and made accurate at the appropriate stage of development.

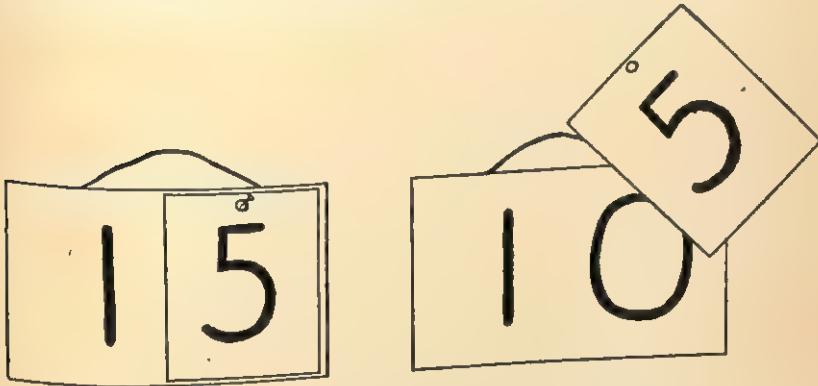
Stage 12.—Number Recognition to 20, including Place-values (Tens and Units)

In the recognition of numbers from 10 to 20, the following piece of apparatus has proved most useful:

Use eleven pieces of plywood approximately 7 in. \times 5 in., and nine pieces approximately $8\frac{1}{2}$ in. \times 5 in. On ten of the larger pieces a bold 10 is drawn, and on the eleventh piece a 20; on the smaller pieces the numbers 1-9.



A small panel pin is fixed over the 'o' on the larger board, and a hole is drilled in the top of the unit card or board so that it may be slipped on and off or moved sideways.



The child may then see plainly that $10 + 5$ makes 15. Also that $15 - 5 = 10$.

He has also before him a frieze of numbers 10-20.

Stages 13 and 14.—Addition and Decomposition of Numbers to 20

Again, a useful piece of apparatus is the "ten" strip extended, particularly for the addition of two units whose total is greater than 10, and for decomposition.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20

The following stages are suggested in the addition and decomposition to 20:

$$\begin{array}{ll}
 (a) & 10 + 6 \\
 (b) & 4 + 2
 \end{array}
 \quad
 \begin{array}{ll}
 16 - 6 \\
 14 + 2
 \end{array}$$

This will be explained easily with the help of a Hundred Board; oral work can continue with $24 + 2$, $34 + 2$.

$$\begin{array}{ll}
 (c) & 8 - 2 \\
 (d) & \text{Addition of two units whose total is more than 10, e.g. } 9 + 5 \\
 (e) & \text{Subtraction of unit from number between 11 and 19, involving decomposition of 10, the "twenty" strip to be used for this.}
 \end{array}$$

Stage 15.—Place-values to 100

A "HUNDRED" BOARD

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

If the odd and even numbers are in different colours, it will help the child in forming a mental image of odd and even numbers.

Stage 16.—Addition of Tens and Units

N.B.—In teaching addition use three numbers, to avoid confusion with subtraction.

Step 1

Addition, without carrying figure.

Revision of previous stages on the back of card.

$$\begin{array}{r}
 t. \quad u. \\
 2 \quad 1 + \\
 3 \quad 2 \\
 \hline
 1 \quad 4
 \end{array}$$

Step 2

Addition, with carrying figure, two numbers in the units to add to 10.

Teach the children to see the two numbers that make 10.

$$\begin{array}{r}
 t. \quad u. \\
 1 \quad 4 + \\
 1 \quad 6 \\
 \hline
 2 \quad 5
 \end{array}$$

Add with carrying figures—add units as they come.

Add both upwards and downwards.

Stage 17.—Subtraction of Tens and Units

1. SUBTRACT TENS AND UNITS WITHOUT CARRYING

$$\begin{array}{r}
 t. \quad u. \\
 5 \quad 4 - \\
 2 \quad 3 \\
 \hline
 \end{array}$$

2. SUBTRACT TENS AND UNITS WITH EQUAL AD- DITIONS

$$\begin{array}{r}
 t. \quad u. \\
 10 \\
 8 \quad 1 - \\
 3 \quad 6 \\
 \hline
 5 \quad 5
 \end{array}$$

This "patter method" of equal additions is recommended:

"6 from 1 I cannot take.
 "Give it a 10 (put down 10).
 "6 from 10 leaves 4; and 1 is 5 (put down 5).
 "Did I add to the top? Yes.
 "Then I must add to the bottom. 2 and 1 makes 3.
 "3 from 8 leaves 5."

Stage 18.—Introduction to Multiplication Tables

It is suggested that the multiplication tables should be learnt in the following order:

{ 2 3 4 { 10 5 { 12 6 8 { 11 9 7 { 1 0

The first introduction may probably be taken at the same time as Subtraction (Stages 16 and 17). The children will be used to counting in twos, using the "hundred" board, and can be shown how to build up the table.

Practice in this may be added to the revision on the back of the sum cards at this stage. In the first place the children will use counters to find the answers, so that they may fully understand what is meant.

$$\begin{array}{r}
 \text{○ ○} \\
 \text{○ ○} \\
 \text{○ ○} \\
 6 \times 2 = \text{○ ○} \\
 \text{○ ○} \\
 \text{○ ○} \\
 \text{○ ○}
 \end{array}$$

The next step will be learning to use a Wall or Individual Reference Table.

Tables should be learnt for multiplication and division, i.e.:

Multiplication

one two two
 two twos four
 three twos six

Division

one two in two
 two twos in four
 three twos in six

1. MULTIPLICATION GAMES

A number of games may be played to promote facility in using tables—Lotto, etc.—in addition to this example:

"You and Me" (A competition between class and teacher)

The answers to the tables of numbers 1-12 are written on the blackboard. The whole table may be written in the first place.

4	1
8	2
12	3
16 etc.	4 etc.

The teacher points to the answer in the first game, and the children have to say how many fours make 8, 16, 24, etc. They continue repeating, for example, "three fours twelve", until the teacher moves to another number.

Scoring

If everybody says the correct table, the children score a mark; if anyone misses, the teacher scores a mark.

If anyone is not looking at the blackboard, the teacher scores a mark. This can be done for multiplication or division.

2. DIVISION GAME

Numbers scattered about the blackboard:

1	4	19	7
2	18		
		6	17
14			20
13			
12	5	3	16
			8
	15		
11		10	9

The teacher gives the table, e.g. "2", and as she points to a number the children say, e.g., "2 into 15 = 7, remainder 1".

N.B.—It is wise to allow several repetitions before moving on.

This is a revision game after division by sharing has been explained.

Stage 19.—Multiplication of Tens and Units

This is usually easily mastered.

Stage. 20.—Division of Tens and Units

Suggested stages in teaching division of tens and units, and hundreds, tens and units:

1. *No Remainder*

$$\begin{array}{r} 13 \\ 2 \overline{) 26} \end{array}$$

2. *Remainder at the end Only*

$$\begin{array}{r} 23 \text{ R. 1} \\ 2 \overline{) 47} \end{array}$$

3. *Remainder on First Number*

$$\begin{array}{r} 26 \\ 2 \overline{) 52} \end{array}$$

4. *Will Not Go into First Number*

$$\begin{array}{r} 08 \\ 3 \overline{) 24} \end{array}$$

5. *Remainders in Both Numbers*

$$\begin{array}{r} 28 \text{ R. 1} \\ 2 \overline{) 517} \end{array}$$

6. *Will Not Go into Middle Number*

$$\begin{array}{r} 208 \text{ R. 1} \\ 2 \overline{) 417} \end{array}$$

7. *Will Not Go into Last Number*

$$\begin{array}{r} 30 \text{ R. 1} \\ 2 \overline{) 61} \end{array}$$

N.B.—It is essential that at all stages revision of previous stages should be given on the back of the card.

VI. Money

The mechanical stages of the four rules in money are outlined in the following pages, but success in the work will largely depend upon the versatility and the amount of oral and practical work undertaken. Stages of work are suggested for the dull child, but teachers may find other methods more successful, e.g. the ten-shilling-note method in addition of shillings.

A. A Few Suggestions for Preparatory and Problem Work in Money

I. SHOPPING

Boxes of price tickets are provided. Initial activities, leading to "real sums", include:

- buying the cheapest article;
- buying the dearest article;
- buying two things costing the same as one another;
- spending a given sum, e.g. 1s.;
- recording in picture form;
- recording as a bill;
- recording as a sum (change).

2. HANDLING MONEY, sorting, counting bank and dinner money

3. GIVING CHANGE from a shilling, etc.

4. DIVIDING MONEY UP into corresponding amounts, e.g.:

1s. = 12d. = 24 halfpennies = 48 farthings

1s. 6d. = 3 sixpences = 6 threepences, etc.

Cards for work on these lines, using cardboard money, might be made as follows:

1s.	= 2 sixpences
	= 4 threepences
1s. 6d.	= sixpences
1s. 6d.	= threepences
2s. od.	= sixpences
2s. od.	= threepences
3s. od.	= sixpences

2s. 6d. = 5 sixpences
= 2s. and 1 sixpence
How much change from
2s. 6d. if I buy:
(1) 4 sixpenny oranges
(2) 1 shilling's worth of fireworks, etc.

5. *SNAP* (Practice with cards in recognising equal values.)
4 threepences — 1 shilling

6. *MONEY LOTTO*. (Educational Supply Association.)

7. *MONEY TABLES*. (See opposite page.)

8. *PROBLEMS* attractively set out with answer cards for checking.
Each stage of difficulty to be met may be set out on its own colour of card, e.g.

FRONT OF CARD

JOHN

John's boots cost £1 10 0
John's coat cost £2 0 0
John's trousers cost £1 5 0
John's hat cost 8 11

JIM

Jim's boots cost £1 15 0
Jim's hat cost 7 6
Jim's coat cost £2 10 0
Jim's trousers cost £1 2 6

(1) Whose hat was the cheaper?
(2) Whose coat was the dearer?
(3) What did all John's clothes cost?

BACK OF CARD

Subtraction Sums

(a) How much dearer is Jim's coat than John's?

				£	s.	d.
Jim's coat cost	:	:	:	2	10	0
John's coat cost	:	:	:	2	0	0

(b) How much dearer is John's hat than Jim's?
(c) How much cheaper are John's boots than Jim's?

The front of the card might be illustrated with coloured pictures of John and Jim.

B. Suggested Money Tables to be Learnt and Used

(i) Pence	(ii) Pence	(iii) Shillings
12d. = 1s. od.	12d. = 1s. 6d.	20s. = £1
13d. = 1s. 1d.	18d. = 1s. 8d.	21s. = £1. 1.0
14d. = 1s. 2d.	20d. = 1s. od.	22s. = £1. 2.0
15d. = 1s. 3d.	24d. = 2s. od.	23s. = £1. 3.0
16d. = 1s. 4d.	30d. = 2s. 6d.	24s. = £1. 4.0
17d. = 1s. 5d.	36d. = 3s. od.	25s. = £1. 5.0
18d. = 1s. 6d.	40d. = 3s. 4d.	26s. = £1. 6.0
19d. = 1s. 7d.	48d. = 4s. od.	27s. = £1. 7.0
20d. = 1s. 8d.	50d. = 4s. 2d.	28s. = £1. 8.0
21d. = 1s. 9d.	60d. = 5s. od.	29s. = £1. 9.0
22d. = 1s. 10d.	70d. = 5s. 10d.	30s. = £1. 10.0
23d. = 1s. 11d.	72d. = 6s. od.	31s. = £1. 11.0
24d. = 2s. od.	80d. = 6s. 8d.	32s. = £1. 12.0
25d. = 2s. 1d.	84d. = 7s. od.	33s. = £1. 13.0
26d. = 2s. 2d.	90d. = 7s. 6d.	34s. = £1. 14.0
27d. = 2s. 3d.	96d. = 8s. od.	35s. = £1. 15.0
28d. = 2s. 4d.	100d. = 8s. 4d.	36s. = £1. 16.0
29d. = 2s. 5d.	108d. = 9s. od.	37s. = £1. 17.0
30d. = 2s. 6d.	110d. = 9s. 2d.	38s. = £1. 18.0
	120d. = 10s. od.	39s. = £1. 19.0
	130d. = 10s. 10d.	40s. = £2. 0.0
(iv) Shillings		
20s. = £1	132d. = 11s. od.	
30s. = £1. 10.0	140d. = 11s. 8d.	
40s. = £2	144d. = 12s. od.	
50s. = £2. 10.0	240d. = £1. 0.0	
60s. = £3		
70s. = £3. 10.0		
80s. = £4		
90s. = £4. 10.0		
100s. = £5		
110s. = £5. 10.0		
120s. = £6		
(v) Pounds		
	£1 = 240d.	
	£1 = 20s.	
	£1 = 40 sixpences	
	£1 = 80 threepences	
	100s. = £5	
	200s. = £10	
(vi) Farthings		
		1f. = $\frac{1}{4}$ d.
		2f. = $\frac{1}{2}$ d.
		3f. = $\frac{3}{4}$ d.
		4f. = 1d.
		5f. = $1\frac{1}{4}$ d.
		6f. = $1\frac{1}{2}$ d.
		7f. = $1\frac{3}{4}$ d.
		8f. = 2d.
		9f. = $2\frac{1}{4}$ d.
		10f. = $2\frac{1}{2}$ d.
		11f. = $2\frac{3}{4}$ d.
		12f. = 3d.

C. Stages in Teaching Money

Although for the sake of clarity, the suggested stages in teaching have been set out under the headings of the four rules: Addition, Subtraction, Multiplication, and Division, the teaching of each of these rules in money should be taken in the following order:

- (i) Four rules in pence only.
- (ii) Four rules in shillings and pence without carrying figures.
- (iii) Four rules in shillings and pence with carrying figures.
- (iv) Addition, subtraction, and multiplication of farthings and easy pence (division of farthings might be left to the last stage for the dull child).
- (v) Addition, subtraction, and multiplication of shillings, pence, and farthings.
- (vi) Four rules in pounds, shillings, and pence. No number of shillings over 12 in multiplication of money.
- (vii) Division of money to include farthings.
- (viii) Four rules in pounds, shillings, pence, and farthings involving all types of difficulty, but the figures ought to be kept within the children's ability and comprehension range.
- (ix) Nought will be taken separately at each appropriate stage.

I. STAGES IN ADDITION OF £ s. d.

(i) d.	(ii) s. d.	(iii) s. d.
2 +	2 +	2 6 +
3	3	3 5
4	9	2
-	—	—
9	1 2	6 1
-	—	—
	14	1 13

When introducing farthings give plenty of work in recognition before attempting further work.

$$\frac{1}{4}d. = 1f.$$

$$\frac{1}{2}d. = 2f.$$

$$\frac{3}{4}d. = 3f.$$

Farthings: 3 and 3 are 6, and 3 are 9.

9 farthings are twopence farthing. Put down $\frac{1}{4}d.$; carry 2d. etc.
[See (iv)].

$$\begin{array}{r}
 \text{(iv) } d. \\
 2\frac{3}{4} + \\
 1\frac{3}{4} \\
 3\frac{3}{4} \\
 \hline
 8\frac{1}{2} \\
 \hline
 2
 \end{array}$$

$$\begin{array}{r}
 2\text{d.} \\
 4)9
 \end{array}$$

$$\begin{array}{r}
 \text{(v) } s. \quad d. \\
 2 \quad 4\frac{1}{2} + \\
 1 \quad 3\frac{1}{4} \\
 2 \quad 9\frac{3}{4} \\
 \hline
 6 \quad 5\frac{1}{2} \\
 \hline
 1 \quad 1
 \end{array}$$

$$\begin{array}{r}
 1\text{s.} \\
 12)17
 \end{array}$$

$$\begin{array}{r}
 \text{(vi) } s. \quad d. \\
 2 \quad 2\frac{1}{2} + \\
 1 \quad 2\frac{1}{2} \\
 4 \quad 1 \\
 \hline
 7 \quad 6 \\
 \hline
 1
 \end{array}$$

Also in *s.* and *d.* columns.

$$\begin{array}{r}
 \text{(vii) } \mathcal{L} \quad s. \quad d. \\
 12 \quad 3\frac{1}{4} + \\
 1 \quad 2\frac{1}{2} \\
 10 \quad 4\frac{3}{4} \\
 \hline
 \mathcal{L} \quad 1 \quad 3 \quad 10\frac{1}{2} \\
 \hline
 1
 \end{array}$$

$$\begin{array}{r}
 \mathcal{L} \quad 1 \quad 1\text{d.} \\
 20)23 \quad 4)6
 \end{array}$$

$$\begin{array}{r}
 \text{(viii) } \mathcal{L} \quad s. \quad d. \\
 2 \quad 15 \quad 1\frac{1}{2} + \\
 1 \quad 4 \quad 2\frac{3}{4} \\
 2 \quad 1 \quad 4\frac{1}{2} \\
 \hline
 \mathcal{L} \quad 6 \quad 0 \quad 8\frac{1}{2} \\
 \hline
 1
 \end{array}$$

$$\begin{array}{r}
 1\text{d.} \\
 20 \quad 4)6
 \end{array}$$

Adding shillings: 1 and 2 are 3, and 10 are 13, and 10 are 23.

Adding shillings: 1 and 4 are 5, and 5 are 10, and 10 are 20.

2. STAGES IN SUBTRACTION OF \mathcal{L} *s.* *d.*

(a) No Carrying Figure

$$\begin{array}{r}
 \text{(a) } d. \\
 9 - \\
 3 \\
 \hline
 6
 \end{array}$$

$$\begin{array}{r}
 \text{(b) } s. \quad d. \\
 7 \quad 5 - \\
 2 \quad 4 \\
 \hline
 5 \quad 1
 \end{array}$$

(b) Carrying Figure in Pence Only

$$\begin{array}{r}
 12 \\
 s. \quad d. \\
 5 \quad 2 \\
 2 \quad 1 \quad 9 \\
 \hline
 3 \quad 5
 \end{array}$$

"9 from 2 I can't. Give it a shilling: turn to 12 pence. 9 from 12 leaves 3; and 2 makes 5. Did I add a shilling to the top? Yes. So I add to the bottom. 1 and 1 are 2."

(c) Introduce Farthings

d.

$$\begin{array}{r} 9\frac{3}{4} - \\ 2\frac{1}{4} \\ \hline 7\frac{1}{2} \end{array}$$

(d) Carrying Figures in Farthings only; Pence to be Easy Figures

d.

$$\begin{array}{r} 9\frac{1}{4} - \\ 1\frac{1}{2} \\ \hline 7\frac{3}{4} \end{array}$$

(e) Nought in Answer

$$\begin{array}{r} 12 \\ \text{(i)} \quad \text{s.} \quad \text{d.} \\ 2 \quad 5\frac{1}{2} - \\ 2\frac{1}{2} \quad 6\frac{1}{2} \\ \hline 11 \end{array}$$

$$\begin{array}{r} \text{(ii)} \quad \text{s.} \quad \text{d.} \\ 5 \quad 6 - \\ 3 \quad 6 \\ \hline 2 \quad 0 \end{array}$$

(f) No Complications

$$\begin{array}{r} \text{£} \quad \text{s.} \quad \text{d.} \\ 5 \quad 15 \quad 2\frac{1}{2} - \\ 2 \quad 2 \quad 1\frac{1}{4} \\ \hline 3 \quad 13 \quad 1\frac{1}{4} \end{array}$$

(g) Carrying Figure in Shillings Only

$$\begin{array}{r} 20 \\ \text{£} \quad \text{s.} \quad \text{d.} \\ 5 \quad 1 \quad 2\frac{1}{2} - \\ 1 \quad 10 \quad 1\frac{1}{4} \\ \hline 4 \quad 11 \quad 1\frac{1}{4} \end{array}$$

(h) Develop to All Types of Complications and Carrying Figures

$$\begin{array}{r} 20 \quad 12 \\ \text{£} \quad \text{s.} \quad \text{d.} \\ 5 \quad 10 \quad 4\frac{1}{2} - \\ 45 \quad 1819 \quad 9\frac{1}{2} \\ \hline 11 \quad 7 \end{array}$$

3. STAGES IN MULTIPLICATION OF £ s. d.

(a) d.

 $3 \times$

2

 $\bar{6}$ $\bar{1}$

(b) s. d.

 $6 \times$

3

 $\bar{1}$ $\bar{6}$

(c) s. d.

2 5

 $\bar{2}$ $\bar{4}$ $\bar{10}$

18d.

(d) s. d.

3

7

 \times

3

 $\bar{9}$ $9 \ 12) 21$ $\bar{1}$ $\bar{10}$

1s. R. 9d.

(e) £ s. d.

12

8

 \times

4

 $\bar{4}$ $\bar{8}$ $48 \ 12) 32$ $\bar{2}$ $\bar{2}$

2s. R. 8d.

 $26) 50$ $\bar{2}$ $\bar{2}$

£2 R. 10s.

Multiply right through first,

e.g. $3 \times 7 = 21$, $3 \times 3 = 9$.

No carrying figures for shillings.

(f) s. d.

 $6\frac{1}{2} \times$

3

 $\bar{1} \ 7\frac{1}{2}$ $18 \ 4) 6$ $\bar{1}$ $\bar{1} \ 1d.$

R. 2f.

 $12) 19$ $\bar{1} \ 1s.$

R. 7d.

(g) s. d.

 $9\frac{3}{4} \times$

4

 $\bar{1} 5$ $12 \ 36$ $4) 12$ $\bar{3}$ $\bar{3} \ 3d.$ $15 \ 12) 39$ $\bar{3} \ 3s.$

R. 3d.

(h) £ s. d.

1 4 2

 \times

9

 $\bar{10} \ 17 \ 6$ $9 \ 36 \ 12) 18$ $\bar{1} \ 1s.$

R. 6d.

 $10 \ 28) 37$ $\bar{1} \ 1. \ R. 17s.$

(i) £ s. d.

4 12

 $6\frac{3}{4} \times$

3

 $\bar{1} 3$ $12 \ 36$ $4) 19$ $\bar{1} \ 1$ $\bar{2} \ 2d.$

R. 1f.

 $13 \ 28) 37$ $12) 20$ $\bar{1} \ 1. \ R. 17$ $\bar{1} \ 1s.$

R. 8d.

4. STAGES IN DIVISION OF £ s. d.

$$(a) \begin{array}{r} d. \\ \hline 2 \\ \hline 5) 10 \end{array} \div \quad (b) \begin{array}{r} d. \\ \hline 2 R. 1d. \\ \hline 5) 11 \end{array} \div \quad (c) \begin{array}{r} s. d. \\ \hline 2 \ 1 \\ \hline 3) 6 \end{array} \div$$

$$(d) \begin{array}{r} s. d. \\ \hline 2 \ 4 R. 2d. \\ \hline 3) 7 \ 2 \end{array} \div \quad (e) \begin{array}{r} s. d. \\ \hline 1 \ 9 R. 2d. \\ \hline 4) 7 \ 2 \end{array} \div$$

$$\begin{array}{r} 12 \\ 3) 14 \\ \hline 12 \\ \hline 2d. R. \end{array} \quad \begin{array}{r} 36 \\ 4) 38 \\ \hline 36 \\ \hline 2d. R. \end{array}$$

Only 1s. over.

More than 1s. over.

$$(f) \begin{array}{r} £ \ s. \ d. \\ \hline 1 \ 7 \ 6 \\ \hline 3) 4 \ 2 \end{array} \begin{array}{r} 6 \div \\ 20 \\ \hline 3) 22 \end{array} \quad (g) \begin{array}{r} £ \ s. \ d. \\ \hline 1 \ 14 \ 8 \\ \hline 2) 3 \ 9 \end{array} \begin{array}{r} 4 \div \\ 20 \\ \hline 2) 29 \end{array}$$

$$\begin{array}{r} 12 \\ 3) 18 \\ \hline 21 \\ \hline 1s. \end{array} \quad \begin{array}{r} 12 \\ 2) 16 \\ \hline 29 \end{array}$$

Only £1 over. Not more than 12s. in answer.

Only £1 over. More than 12s. in answer.

$$(h) \begin{array}{r} £ \ s. \ d. \\ \hline 2 \ 10 \ 6 R. 3d. \\ \hline 5) 12 \ 12 \end{array} \begin{array}{r} 9 \div \\ 24 \\ \hline 5) 52 \ 33 \end{array} \quad (i) \begin{array}{r} d. \ f. \\ \hline 5 \ 3 R. 1f. \\ \hline 2) 11 \ 3 \end{array}$$

$$\begin{array}{r} 2 \times \\ 20 \\ \hline 40s. \end{array} \quad \begin{array}{r} 4 \\ 5) 50 \ 30 \\ \hline 2 \times \\ 12 \\ \hline 24d. \end{array} \quad \begin{array}{r} 4 \\ 10 \\ \hline 1d. \end{array} \quad \begin{array}{r} 7 \\ 2) 7 \ 6 \\ \hline 1f. R. \end{array}$$

More than £1 over.

(j)	£	s.	d.	f.
	2	7	2	3 R. 1½d.
6) 14		3	5	3
12	40		12	20
2 ×	6) 43	6) 17	6) 23	
20	42	12	18	
40s.	1s.	5 ×	5f. R.	
		4		
		20f.		

It is appreciated that many dull children in the Primary School will be able to master the earlier phases of Stages 3 and 4 only. In Stage 4 it will be for the teacher to decide exactly how much working the pupil should show. For example (d), (e), (f), (g) opposite show no working for the left-hand column, although for some pupils it might be helpful in the early steps to set it all down.

VII. The Suggested Organisation of a Practical Experience Lesson

(Comprehension before Computation)

To facilitate movement, this lesson is best taken either in the hall or in the largest classroom. A practical arrangement is to have four tables. Each table is used for one of the measures—the first for weight, the second for length, the third for capacity, and the last for time, area, volume, etc.

The Weight Table should be equipped with a letter balance, grocer's scales, spring balance, bathroom scales, etc.

The Length Table requires yard- and foot-sticks, a chain, tape measures, carpenter's rule and engineer's rule, string, cotton, etc.

The Capacity Table requires gill, half-pint, pint, quart, and gallon measures, as well as vessels of varying capacities—milk bottles, watering-can, buckets, etc.

The Miscellaneous Table should include a clock-face, a calendar, compass, simple bus and train time-table, etc., 1-in. cubes, square

inches and square feet (cut in card), shapes of various sizes (rectangles only or made up of rectangles).

For a class of forty there should be a minimum of five questions on each table.

The class work in couples—ten to a table, and each pair work their way round the questions at each table.

The children are asked to *estimate* each answer first and write it down before using the apparatus to calculate it.

Each pair has a note-book or a stencilled sheet arranged as shown below:

	<i>My Guess</i>	<i>My Answer</i>
Table A. 1		
2		
3		
4		
5		
Table B. 1		
2		
3		
4		
5		
Table C. 1		
2		
3		
4		
5		

(And so on for Table D)

Each question is written on a card appropriately labelled (such as A.1, C.3), so that the answer may be inserted in the correct space on the answer sheet. The apparatus necessary to answer the question is grouped around it.

The questions should vary in difficulty according to the age and experience of the class working them. The following are suggestions for children of I.Q. 75 at the age of 11+.

A.1. Which is the heavier of 2 parcels? (one large and light, the other small and heavy).

2. Weigh 1 lb. of sand.
3. Which of the boys is the heavier? (Weigh both boys and compare.)
4. Use spring balance to weigh parcels (say wastepaper).
5. Weigh letter or small parcel. What would it cost to send by post?

B.1. Measure lengths of several straight lines. Inches to $\frac{1}{8}$ ths.

2. How far is it round the jar?
3. Measure the length of your pace.
4. How far round a cycle wheel? (Chalk line on tyre and wheel along floor.)
5. Length of room to nearest yard.

C.1. Fill until they are all equally full five glasses from 1 jar. Do they hold gill, half-pint, pint, or what?

2. What quantity of water (to nearest pint) will the watering-can hold?
3. The cost of the sand in the beaker is 6d. What will it cost to fill the large measure?
4. How many tablespoons fill a half-pint measure?
5. How many milk bottles can be filled from 1 gallon?

D.1. What time is it now? Put hands as they are on the school clock.
What time will it be in 35 minutes? etc.

2. Use square foot or square inches to cover piece of card (rectangular designs only).
3. How many 1-in. cubes to fill box?
4. How many days from March 5th to April 2nd.
5. Hidden treasure lies under the card.
Start at x, go 4 inches north, 6 inches east, 2 inches south, 3 inches west.
What is the number of the square under which the treasure lies?

The teacher will find many more examples. A lesson like this needs so much preparation that it may not be found possible to have such a lesson as frequently as desired. It is suggested that monthly or bi-monthly lessons could be aimed at.

VIII. Methods of Organisation which have been found Useful

Teachers may ask the question, "Where can I fit in all this with the usual class work?" The following are a few suggestions on school and class organisation which may prove useful.

A. Grouping

(1) Where the head teacher is not in charge of a class he may withdraw the dull children to teach them Arithmetic.

Note.—If this is done, the instruction must be continuous and the teaching must not be interfered with in any way. If the head teacher is hindered in any way, the dull child will fare worse than if he were in a group in another class.

(2) Where the children are in the same class, it has been found useful to keep the dull children in a group near the front of the class, where they can be given extra help.

B. Equipment

The equipment for Practical Arithmetic has already been dealt with in Section 4. Further help on apparatus and the storing of apparatus will be found in *Arithmetic in Action*, Brideoake and Groves (University of London Press).

For all processes, Infant apparatus should be available, wherever necessary, throughout the Junior School.

1. **SUM CARDS**, carefully graded, should be as attractive as possible. If tinted cardboard is used, a different colour should be used for each stage. Pictures and scraps should decorate the top. The most attractive set of pictures to be put on those stages where the child finds the greatest difficulty.

2. **COUNTERS** should be brightly coloured and containers well enamelled.

3. **PENCILS** should vary in size and thickness according to the muscular control of the children. Those with very poor control may need to use thick crayons, progressing through thick Black Prince pencils to those of normal size. Blackboards and chalk have been found useful with dull children in some cases. The old-fashioned sand trays also often help where control is very poor—if the bright children are allowed to use these, the dull children will not feel that they are being singled out to use this particular equipment.

4. *EXERCISE BOOKS* should be thin, so that poor results are not permanently in front of the child. They should also vary in size and be plain or ruled according to the needs of the children, e.g. those with poor muscular control will need large sheets of paper to use with thick crayons.

All apparatus should be easily accessible to the children, and the successive stages very apparent. The children should be able to change their apparatus and put away used apparatus. It will be found useful if sum cards are kept in a specially partitioned box or in wall pockets with numbered stages as shown below.

0							0
1	2	3	4	5	6	7	
8	9	10	11	12	13	14	
15	16	17	18	19	20	21	

Wall Charts should be clear and pleasing to the children, and the children should be shown how to use the charts they need for reference. Soiled or torn charts should be replaced.

C. Modification of Time-table (if used)

Lessons may be modified so that Arithmetic can be done during a lesson on some other subject. The class sometimes might be given work which they can do for themselves while reading and number are taught to the dull. A minimum of 240 minutes should be set aside for Arithmetic for dull children each week.

Another simple change in the time-table which has been found useful is to transfer the Monday morning Scripture Lesson to 11.30 a.m. and replace it with the weekly Arithmetic Test to be done while

the teacher deals with the dinner money, etc. It is easier to set an Arithmetic Test while this is going on than to set written work in Scripture.

Generally, short periods of formal work for the dull followed by activities, or vice versa to meet the convenience of the teacher, are considered to be more beneficial.

D. Diagnostic Testing

Dull children should be awarded privileges and praise for any special effort they make.

The use of the Revised Southend Test not more frequently than twice a year can be of the utmost help if the test is given from the age of 7 and individual mistakes noted. Schonell and Beacon Tests are also useful. Similar sums to the one where the mistake was made should then be given to find out if the mistake is genuine or just carelessness. If the mistake is genuine, ask the child to work the sum aloud and note the exact stage where the error is made. The next thing to do is to take the child back to the stages where he had success and then take him on to where he made the mistake, so that the steps can be re-taught. This diagnostic testing is emphasised as being the very essence of good teaching.

In learning any process, practice on that process alone will be found more helpful than practice on mixed processes.

The use of games, flash cards, etc., is helpful in developing speed in computation.

IX. Reference Books

<i>Title</i>	<i>Author</i>	<i>Publisher</i>
Number in the Nursery and Infant School	E. E. Kenwick	Kegan Paul
Diagnosis of Individual Difficulties	F. H. Schonell	Oliver & Boyd
Beacon Number, Teacher's Manual	C. M. Fleming	Ginn
Beacon Arithmetic, Teacher's Manual	C. M. Fleming	Ginn
Teaching the Essentials of Arithmetic	P. B. Ballard	University of
The Teaching of Arithmetic in Primary Schools	Lovell & Smith	London Press

Title	Author	Publisher
An Approach to Practical Number Teaching Studies in Arithmetic, Volume II	D. Williams Scottish Council for Research in Education	Oxford University of London Press
The Teaching of Arithmetic The Psychology and Teaching of Number Arithmetic in Action	M. Drummond Brideoake and Groves	Harrap University of London Press
Sixty Number Games for the Infant School The Realistic Approach to Number Teaching Learning and Teaching in the Infant School	Jane Spencer D. Williams E. G. Hume	Macmillan Oxford Longmans

Chapter VII

TEACHING ART AND CRAFTS

I. The Value of Art/Craft to the Dull Child

ONE of the fundamental aims in teaching dull children is to maintain or restore their self-confidence and self-esteem, thus releasing energy for mental activity and building a well-integrated personality.

It may well be that Art/Craft, by its very nature, is the subject *par excellence* through which dull children may be taught best. From among the wide variety of media available, it is reasonable to assume that each dull child will find some suitable means of self-expression through which he may experience the joy of successful effort and the satisfaction of achievement. His finished product, even if to his somewhat uncritical eyes it lacks perfection, will be a visible sign of work worthily and honestly done, satisfying his own simple creative impulse. To this end, it is important that the teacher should plan the work in such a way that the dull child may produce work of a creditable standard. For example, while one child might make an apron involving curved seams and binding, another in the same class might be making an equally attractive garment by sewing together a square and a rectangle of material.

Care should be taken that in harnessing an individual child's enthusiasm to a particular medium, his work in this medium should not be prolonged to the point where he becomes lazy in its use, or unwilling to adventure in others. Indeed, the effect of his success in one medium should be to promote a readiness to try others. The span of purposeful work in a particular medium will vary considerably with the children concerned, and for dull children it may be comparatively long.

Art/Craft work should be treated as an indivisible whole: in all aspects of the work there are two main elements: the idea, and the means by which it is expressed. These cannot be separated. For example, in pictorial work, however free the expression, the teacher must consider the appreciation and enjoyment of the materials used. Similarly, Craft work is not confined merely to a mechanical concern with technique, but embraces also the development of skill in

the best use of tools and materials in the service of an idea. In all aspects of Art/Craft work these two elements remain inseparable. It is realised, of course, that a subject such as Needlecraft may have to be given a separate place in the time-table, but close correlation with Art/Craft should be maintained.

In the main, the programme of work for a dull child will contain the same variety as for other children, although his rate of progress in working through the programme will be slower. By keeping to the simple essentials of technique, he may achieve work of a good standard, provided he has sufficient opportunity for interesting repetition. For example, in learning to turn a hem a dull girl should be permitted to practise the technique involved on a table-mat, a tray-cloth, a sun-bonnet, etc. Learning to cover a board with paper or book-cloth could be practised in making a variety of articles such as a wallet, a blotter, a calendar, etc. The skilful teacher will avoid the type of lesson which demands mass-teaching, and will seek to arrange a programme of work which, while different in degree rather than in kind, will offer each child the prospect of reasonable success.

In general, the teaching of Art/Crafts should be in the hands of the class teacher. The arguments in favour of this course have additional force for the dull child, who has much greater difficulty than others in adjusting himself to the viewpoints and methods of a number of different teachers. At the same time, since the dull child depends mainly on pictorial and manipulative means of self-expression, it is desirable that the teacher of his class should be keenly interested in the subject, and that there should be a teacher on the staff capable and willing to advise his colleagues on the appropriate techniques in Art/Craft and on the best means of using the subject to stimulate children into useful activities calling for genuine mental effort.

Art/Craft cannot flourish unless it is part of the way of life of the school. Powerful influences are: the decoration of the school (the colour of rooms, the use of pictures and flowers), the orderly use and attractive presentation of materials, the dress of the teacher, and the degree of lively interest which the teacher shows in life and the world around.

In every school all members of the staff should have the common aim of ensuring as far as possible that a sense of artistry is reflected in all displays and exhibitions. For example, notices should be tastefully

designed and neatly displayed; text-books and exercise books should be stored tidily on cupboard shelves; books themselves should be kept in a good state of repair, and not be allowed to become tattered and dirty, and if they are to be bound the binding should be decorated with an artistic design; the walls of the classrooms might be decorated with few but well-designed posters and visual aids with an eye to their artistic layout and arrangement as much as to the particular lesson or activity they are meant to illustrate.

The interest of a dull child will not be aroused if the medium in which he is required to work demands muscular control beyond his capacity. A child who is incapable of controlling a paint-brush may be able to work more competently in clay, and may therefore be able to express himself with greater ease and confidence in clay-modelling than in pictorial work. A scrapbox, with a variety of materials of attractive texture, colour, and shape, can be a source of inspiration for much constructive work. Details of suitable contents for a scrap-box are given on page 129.

II. The Development of the Subject

One of the basic principles which should underlie all Art/Craft teaching in the primary school is that the children's interest, enthusiasm, and energy should be captured.

It cannot be said that any one branch of Art/Craft work is more suitable than others, but rather that the field should present such a variety that somewhere the opportunity will occur of exciting the interest of each child.

In *pictorial expression*, it should be remembered that, at the primary stage, even the abler children draw upon their own fund of ideas—realms consisting of symbols for what they think of things rather than of photographic impressions. At this stage, 'reality' is expressed pictorially by bringing together these symbols, and not with a photographic representation of natural objects.

For all children, and particularly for dull children, it is vitally important that this individual world of ideas should be allowed to develop—here lies the beginning of the formation of a personal relationship with the universe; any restriction, by introducing or imposing adult concepts in pictorial expression, will hamper the development of the individual child's ideas, however simple or crude these may be. To try to force the pace by introducing ideas which are beyond his comprehension will cause timidity, frustration,

and apathy; the teacher must be patient. This is not to say that the teacher should stand to one side while the child develops in isolation, but that the teacher's first concern is to provide favourable conditions for the growth of each child's world of ideas. For this, knowledge of the personality and temperament of each child is necessary, and a knowledge of the characteristics (or "temperaments") of the various media, so that these shall be used with understanding in relation to the child's needs. While some children will work most happily with paint and colour, others will prefer clay or some other medium.

When using colour, it should be appreciated that powder-colour is easier to control than water-colour, and was for that purpose introduced into school work. Although it is quite possible to train a good proportion of children to a standard of neat application of water-colour, the processes are mechanical rather than of value in respect of the main aim of developing ideas. If the medium used is too difficult, it will restrict the child in expressing his ideas, and the teacher should devote great care to ensuring that, while a growing skill in technique is formed, this should help and not divert from the main purpose of expression work. For drawing, the pencil is an instrument which requires skilled and refined control, and progress in its use should be through stages. Young children can acquire some degree of control of the pencil, but almost without exception their work loses in value; it becomes niggling, small details are given attention at the expense of the character of the whole original idea. Given a brush or chalk, the idea will be expressed while still fresh in mind. As control and technical skill increase, more refined materials may be introduced.

The concern of the teacher should always be for the development of the child's character through an awareness of character in the world around him, and the character of the tools and materials which he uses. In Pictorial work with dull children anywhere at the primary stage, the teacher can introduce such matters as the accurate proportion of the human figure only at the expense of the expression of character. Proportion and perspective are features of the work which, if broached at all with dull children, can be of value only when the children are older and more mature.

The child will want to express himself by portraying what is foremost in his mind, not by trying to show his subject as it is in reality. The critical faculty which develops in the normal child at about the

age of 9 is likely to leave the dull child untouched throughout his primary school life. This does not, however, preclude the dull child from achieving "character" in his work. For instance, if the child is portraying "The Strong Man at the Fair", he can be helped to bring out his own impressions of those distinctive qualities of form and accoutrement which distinguish the strong man of tradition without the teacher's reference to imperfections of proportion and perspective, which at that stage of the child's development are unimportant. His emotional and imaginative powers will thus be stimulated, whereas an attempt to force a more mature view-point for which he is not ready would lead to disappointment and frustration.

In Craft work (i.e. work of more practical application), it should be remembered that accuracy in mensuration is not the only form of accuracy. To mix paint or paste well, to make sure clay is in good condition, to control brush and chalk, to achieve the regular stitch—these are the beginnings of a real appreciation of accuracy. For instance, in bookcraft and needlecraft, any approach to more intricate techniques should be preceded by simple, related exercises such as paper-folding, hem-turning, and designing on fabrics where the line of the ground material provides a foundation.

Further, in Craft work, as in Pictorial work, the teacher should make every effort to ensure that the work has character; the exercises should give every opportunity for expression. A small book, to be made for Nature Study and in which autumn leaves are to be pasted, could be folded to size, sewn, and the cover decorated with potato- or original stick-prints; it is in this decoration that the main opportunity for expression will be found—here is the child's chance to express through colour some idea of the character of autumn and thus give the book itself character and quality.

Craft work can only partly serve its purpose if taken merely as an exercise in mensuration and neatness.

Art/Craft work is always personal, since it is constantly presenting each child with the opportunity of expressing his own ideas; it also enables him, by a gradual progression through a series of stages relative to his own rate of development, to exercise a growing control over a variety of materials. For these two reasons a child experiences satisfaction and gains confidence not only while he is actually at work but also from the finished product which he has made.

III. Suggestions for Materials

Choice of Materials

Since the dull child generally has poor muscular control, the choice of materials is very important. Materials should be big enough and flexible enough for easy handling.

They should comprise:

Hog-hair brushes (large and small).

Powder-paint of good consistency.

Kitchen and sugar paper.

Clay and "Plasticine" in good-sized lumps, of a consistency easy to work.

Stick-printing apparatus (can be made in the school).

Potatoes for printing patterns.

Paste, for paste-combing as well as pasting.

"Free Art" wax crayons, pastels, chalks, and charcoal, which are easier to handle than finely pointed pencils.

Knives, scissors, and pencils, which should be big enough to hold easily and with comfort.

Manilla, card, and strawboards.

Sewing materials should include:

Needles with good eye and short span (Nos. 1 and 3, Schedule No. 1869, Leighton, Baldwin & Cox).

Threads of reasonable thickness ("Anchor" *soft and flox*, *coton à broder*, "Star Sylko", which are easy to thread and do not readily twist and knot).

Materials which are easy to handle and do not readily crease and soil: "Panama" canvas No. 103; "Lichfield" canvas No. 1889; "Daphne" canvas No. 312; gingham, checks $\frac{1}{8}$ in., $\frac{1}{4}$ in., and $\frac{1}{2}$ in., No. 79; imitation linen No. 329W.

Knitting:

Knitting cotton of medium thickness is easy to handle at the first stage.

Wool of good quality, which does not break or split readily, should be used.

Knitting-needles should be short, thick, and easy to handle. Sizes 7, 8, and 9, length 7-8 in., are suitable for the early stages, and size 12 for finer work (Schedule No. 34).

Scrap-boxes should contain an assortment of objects and materials to stimulate the child's own ideas for their use and application in

constructive work. For example, a child might see in a date-box the beginnings of a barge or tram-car; pictures instead of being painted can be composed by pasting to a background shapes cut from a variety of coloured papers, fabrics, and scraps, of interesting qualities and textures.

The following are useful items for scrap-boxes:

Fabrics with interesting patterns and colours, and of a variety of textures

Offcuts of leather.

Cotton reels.

Felt scraps.

Buttons.

Raffia.

Straws.

String.

Shells.

Coloured cottons.

Cones, and similar tree fruits.

Soft wire.

Sawdust and sand.

Cotton-wool.

Corks.

Crêpe paper.

Dowelling.

Silver paper.

Strip wood and blocks of wood.

Beads.

Boxes and cartons of various

Tinsel.

shapes and sizes.

IV. Choice of Subject-matter and Progression in the Work

A. Pictorial Expression

Subjects should be chosen to develop the child's awareness of the characteristics and the qualities of all that goes to make his environment.

In the early stages the subject-matter will be very simple and will make provision for the child's expression of his ideas and experience of such fundamentals as *The House* (home and security), *People* (those of importance to him, at first mother and father, but soon teacher and others who become important and interesting), and *The Seasons*.

The simplicity of these first subjects changes to an increasing diversity as the child grows older and his environment widens and experience increases.

As the subject-matter becomes more diverse, this diversity should be in the form of natural growth from what has gone before, as the child himself is growing; for example, from painting his own house, to a house with people he knows, to several houses, the High Street and its shops with their types of people.

In all the work there should be continuity of development, and a feeling of growth and purpose should permeate the whole atmosphere of the work. This atmosphere can, in itself, do much to form good habits of working as well as help in stimulating thought and activity.

As in Pictorial Expression, so in Applied Work, awareness of character and qualities, both of subject-matter and of materials used, should be fostered.

B. Applied Pattern Work

Skill may be developed in stages through the following methods:

1. PASTE-COMBING

This can be done from the child's earliest days at school when he will also be making free brush-written patterns. At first this method will be used in the simplest of ways, and will consist of making patterns quite freely with a small cardboard "comb", or even a small screwed-up piece of hard paper, on the surface of a piece of paper which has been coated with colour. The colour should be powder-paint mixed with fairly thin paste, and the pattern must be made while the colour is still wet.

2. EDGE STENCILLING

This involves the use of the edge of a strip of stout paper or card, cut or torn to give a simple shape which may be used as a *motif* to form a repeat pattern. It should be large enough for the child to handle without difficulty. Colour can be applied in a variety of ways, such as rubbing chalks along the edge of the stencils, or by applying paint (mixed fairly thickly) with brush or sponge.

3. STICK PRINTING

The tools for stick printing may be made by sawing through pieces of dowelling, and with Swiss files making grooves on the sawn surfaces to form *motifs* for printing. The powder-paint used for printing should not be too thin, and should not be applied too copiously to the printing surface. Best results are obtained on fairly absorbent paper. Kitchen paper takes prints well. Small *motifs* of this kind are suitable for making border patterns. If all-over patterns are made, the area covered should not be too large.

Not only sticks or dowelling, but corks, pieces of rubber, etc., may be used for making tools for printing.

4. SIMPLE CUT-OUT STENCILS

These are a development of the edge stencil. The *motif* instead of being cut from the edge of a piece of stout paper or card is cut from the centre of a piece which is square or rectangular in shape and large enough for easy handling. The *motif* should be simple at first, and may be repeated to form a pattern by dabbing paint through the space cut in the paper, using a stiff brush or sponge, or by rubbing coloured chalks through. The paper shape which has been cut from the rectangle can itself be used as a template and will give a "reverse" impression of the *motif* in the pattern.

Work done by the above methods should be part of the development of work in the various crafts, which will also progress by stages related to the abilities of the pupils.

C. Bookcraft

This may begin with simple folding of pages tied together with cord, the outer page being decorated with paste-combing to form a cover.

From this, the child should progress to simple sewing together of folded pages and be introduced to the basic three-hole sewing of pages, while, later, the covering of a board to make such things as calendars and blotters (with more advanced techniques in decoration) will lead to the use of covered boards in simple case-binding of single-section books.

D. Doll-making

This can proceed from simple beginnings, the dolls to represent different characters (princess, villain, etc.), with colour and pattern suited to the character.

Peg dolls, dolls made from tied rolls of paper or covered bent wire, will lead to glove puppets with papier-mâché heads. Dresses can be patterned by stick prints, stencils, and potato-cuts as these methods are learned. For dressing the very simple dolls, crêpe paper can be printed with a pattern, and herein lies a beginning for fabric printing later.

E. Work with Clay

As well as beginning by modelling subjects similar to those suitable in the early days of pictorial expression, there can be some simple work in pottery. In this there should be a progression from

the simplest of techniques (pots formed by pressing the thumb into a ball of clay) through various methods, such as pressed-moulding, slab-built shapes, and coiled pots, decoration being an important feature of the work at all stages.

This decoration can be introduced by a variety of means, such as impressions made by stick-prints while the clay is soft, patterns scratched on with a pointed stick, or by pressing small lumps and rolls of clay on to the main shape to make the decoration.

F. Appliqué Work

This can develop naturally from cut-paper work or from pictures made, as suggested above, by cutting and pasting to a background suitable pieces from the scrap-box.

The suggestions given above are chosen from the very wide field of possible activities to show the way in which the various branches of the work may be related, and to give some idea of the gradual development of skill and interest. This will always depend ultimately for success upon the teacher's own sensitivity to the needs of individual children, knowledge of their background, abilities, and aptitudes; and upon an imaginative and lively use of all those opportunities which present themselves in the run of life from day to day.

V. Co-ordination with Other Subjects

In teaching dull children the teacher should bear in mind the need to deepen the aural impression by reinforcing it with the visual. It is not enough to give these children a verbal description of an object; they need to see a picture of that object, and to make that knowledge their own not only by hearing the words but by absorbing the information through actually drawing or modelling that object. In this way impressions which might be only superficial if given verbally can be deepened through the experience of size, shape, colour, and texture. It follows, therefore, that handwork and picture-making are two of the most vital tools the teacher possesses in educating dull children, and that, owing to their slow development in Reading and Writing, much of the early work in most subjects will take the form of picture-making and handwork. It is, therefore, most important that in presenting the various subjects of the curriculum, the teacher should seek ways of using pictures and hand-work to illustrate the knowledge she wishes to impart. An attempt has been made in the following paragraphs to indicate some of the

ways in which practical work might be used in conjunction with the other subjects of the curriculum. It is intended only to be suggestive, and is by no means exhaustive. It should be remembered that the dull child's executive skill is often very limited, and some help given by the teacher is permissible when her aim is to convey accurate facts.

A. Language Development

If the child is so inadequate in verbal expression that he cannot communicate his thoughts and ideas orally, picture-making may be his only release and form of expression. New words often may be added to his vocabulary only by actual graphic representations, e.g. by adding a chimney to a picture of a house. This is followed by the child accepting additions to a picture he has made and using the picture in association with the spoken word. Making a model, such as a safety-first exhibition in the class sand-tray, offers opportunities for increasing vocabulary and provides a means for children to talk about their handwork, thus increasing their facility with the spoken word. Where accuracy is essential, as in a Zebra crossing, or a road sign, templates are permissible to give an accurate stimulus pattern. Making and using glove puppets provides many opportunities for speech exercises. The subsequent use made of a puppet is as important as the actual making of it.

Pictures can be made to deepen the impression of stories and poems.

B. Teaching Reading

It is becoming more evident that no phonic work in reading should be done until a child has acquired a basic vocabulary of approximately 100 "look-and-say" words. The use of pictures is necessary to help the child to obtain this vocabulary. Scrap-books of pictures cut from advertisements (people, shops, food) are a useful activity for the child. Later, picture dictionaries completed by the child, and containing words and their illustrations are very helpful. Making models to which word-tickets can be added, and modelling words in clay and "Plasticine", provide very fine approaches. Vocabulary may be tested by asking a child to illustrate by a drawing the meaning of a word he has built up. He may also record in picture form the meaning of a sentence he has made from "look-and-say" words. Thus the first stages in comprehension are tested.

C. Written English

Art and Craft lessons may often be used to stimulate written work. A child's first steps in written English may very well be taken in conjunction with an art period in which he is making a picture. At first, he may be content with adding one word to the picture. Later, a sentence may be constructed, and later still, a short written description. The construction of a Post Office and letter-box add an incentive to the formal work of postcard and letter-writing. A model of a farm or a house can often supply the basis for "topic" work in English.

D. Writing and Writing Patterns

The care devoted to a greetings card with its lively colour and rhythm provides an added incentive towards good style and finish in handwriting. Indeed, the very shapes of letters may be used for making patterns, space-filling exercises, borders, and rhythmic design generally. Notices, posters, programmes, etc., add purpose to both Art and English lessons.

E. Number

Illustrations and materials are vital to the acquisition of the basic ideas in number. Not only must a child handle real objects, but also he should have opportunities of arranging material in basic number formations. The idea of *two-ness* is best taught by the child making as many groups of twos as possible, the groups being widely dissimilar in shape, size, and colour, e.g. two counters, two nails, two flowers, two cut-paper templates, etc. Later, a book of "twos" of scraps may be compiled: two shoes, two motor-cars, etc. The construction of material used in a shop—flour, sweets, and cakes, paper ties and ribbons, etc., sheets of stamps, postcards, billheads, price tickets—all provide scope for manual dexterity and arouse interest in the subject. In the early stages of number work, simple shopping transactions may be represented practically by showing what was bought and the amount spent.

F. Nature Study

Here many opportunities arise for simple Craft processes and the development of the appreciation of beauty. The copying of notes by dull children is to be deplored, but the practical application of Nature work might well take the form of Handwork and Art.

Arranging shells, twigs, and flowers gives the children opportunities to develop appreciation of design. Booklets on allied topics, such as leaf collections, wild-flower drawings, and collections of animal pictures, may be made.

Taking bark rubbings, making plaster casts, mounting specimens, all develop interest and give opportunities for the mastery of materials.

G. Geography and History

To colour and give life to the work the use of pictures and models is necessary. Any record of work done or learned in a lesson should not, for the dull child, take the form of notes, but should rather consist of neatly written captions to a series of illustrations. The picture strip showing the life-story of plants or trees useful to man, or of a process in manufacture, e.g. from the cotton pod to the summer dress, arouse great interest. Models of the child's village or district will precede map work. Picture-books of processed articles or products of a country, neatly collected and bound attractively, give life to the subject studied.

In History, the sequence of events can be illustrated in strip pictures or one incident may be portrayed in an attempt to capture the emotional appeal. Simple properties can be made for the dramatisation of an episode, e.g. a jewelled belt, a mediaeval headdress, or King Arthur's sword. In any topic there will be an opportunity for a model. Accuracy is desirable and careful guidance from the teacher may be necessary if wrong ideas are to be avoided, e.g. a dull child may wish to insert an engine-room ventilator or a Viking ship.

H. Scripture

The *Cheshire Agreed Syllabus of Religious Instruction* lays great stress on the practical work associated with this subject and guidance is given on pages 10 and 16, and in the expanded syllabus of the junior section.

I. Seasonal Events

The changing seasons and the various school events should be seized upon by the teacher to give point to the work and to enrich the general education of the child. While the immediate aim might be limited to one objective, the associations around this object may

be of much greater value, e.g. at Christmas, the child makes cards and gifts for parents and friends, bringing in ideas of service, and thought for others. School occasions—the school play, open days, sports days, Empire day—may give opportunities for making decorations, programmes, posters, and properties, thus allowing even a dull child to make his individual contribution to the whole. The activities are practically unlimited, and might include Christmas hats, etc., Easter eggs, Hallowe'en masks, table and flower arrangements, and decorations for the canteen.

Reference Books

Dryad Leaflets:

- No. 22 Stencilling on Paper and Fabrics
- No. 57 Stick Printing
- No. 93 Making Papier Mâché
- No. 100 Card-loom Weaving
- No. 107 Combed Pattern Papers
- No. 133 Small Carved Animals

Title	Author	Publisher
Bookcraft for Juniors	A. F. Collins	Dryad Press Ltd.
The Junior Basket Maker	C. Crampton	Dryad Press Ltd.
Raffia Work	C. Crampton	Dryad Press Ltd.
Pictures and Patchwork	P. Warner	Dryad Press Ltd.
Dressed Soft Toys	E. Moody	Dryad Press Ltd.
Dressed Soft Toys (Animal Families)	E. Moody	Dryad Press Ltd.
Rag Bag Toys	I. P. Roseman	Dryad Press Ltd.
The Making of Soft Toys	C. E. Edlmann	Dryad Press Ltd.
An Introduction to Embroidery Stitches	L. E. E. Judd-Morris	Dryad Press Ltd.
Simple Embroidery	E. Macknie	Dryad Press Ltd.
“And So to Embroider” Series (Nos. 1-13)	The Needlework Development Scheme, 89 Wellington Road, Glasgow, C.2	Dryad Press Ltd.
Stitch Series (Nos. 1-5)		
Mary Thomas Dictionary of Stitches	M. Thomas	Hodder & Stoughton
Junior Needlecraft	D. M. Hart	Pitman
Let’s Learn to Knit	J. Norbury	Brockhampton Press
The Story of Thread and Cotton	H. Ballam	Penguin Books

<i>Title</i>	<i>Author</i>	<i>Publisher</i>
Felt Work	R. Brindley	Foyles
Soft Toy Making	R. Brindley	Foyles
Decorative Soft Toy Making	E. Edwards	University of London Press Ltd.

Suppliers of Art Reproductions

Messrs. J. Lyons Ltd., Cadby Hall, London, W.14 (Lithographs by well-known contemporary artists, $28\frac{1}{2}$ in. \times $38\frac{1}{2}$ in.)

School Prints Ltd., 13 Motcomb Street, Belgrave Square, S.W.1 (Lithographs by well-known contemporary artists, $19\frac{1}{2}$ in. \times 30 in.)

The Medicci Society, 34-42 Pentonville Street, N.1.

Soho Gallery Ltd., 18 Soho Square, W.1.

The Phoenix Gallery, 38 William IV Street, W.C.2.

The Fine Arts Publishing Company Ltd., Burlington Works, Cornwall Avenue, Finchley, N.3.

Frost & Reed Ltd., 41 New Bond Street, W.1.

Philip & Tacey Ltd., 69-79 Fulham High Street, S.W.6.

Chapter VIII

TEACHING HISTORY AND GEOGRAPHY

I. General Principles

"EVERY subject has a contribution to make to the social training of the child."

Though it may be deemed advisable in teaching certain subjects such as English and Arithmetic to segregate the dull child from others of his chronological age-group, he must not be allowed to feel on that account that he is a complete outcast from society. History and Geography are subjects in which he may be taught alongside his better-equipped classmates. Reference is made later to the part which he can play.

Through the application of sound teaching methods, he will be encouraged to think, feel, and live more fully. He will be provided with real opportunities to play his part in communal life and gain self-esteem. Given a fundamental knowledge of the world beyond his own limited sphere, he will better understand what he sees, hears, and possibly reads about this wider field. Even the dull child may learn something of the interdependency of men, glean some idea of time-sequence, and so be helped to place people and events in their right perspective and against the right background. By the completion of a well-executed model, or by taking part in a group activity, he will be given an opportunity to use his own individual skill, and from such work will learn something of the sense and pride of achievement.

The general approach at all times must be practical. Words alone mean very little to a dull child, who learns mainly through seeing and doing.

The aim of the teacher should be to arouse interest and provide a stimulus for personal activity on the part of the child. It is obvious that children's interests vary. The wise teacher will seek, through a variety of approaches—by starting from the child's interest in some detail or aspect; by using the right introductory material; by choosing carefully the right approach and offering suggestions, or through casual conversation—to discover this interest and, at the opportune

moment, to use it. Much of the lesson should be devoted to work in which the child is actively engaged and which will vary according to the subject of study and the mental capacity of the individual child.

A subject may be introduced through a well-told story; through a descriptive account of an event from History or a scene in Geography; through a discussion on the topic in which the children are stimulated to ask how?, when?, where?, and why?, and seek themselves to find the answers; or from general instructions given briefly but clearly. No time should be wasted on prolonged talks or preparation. The work's the thing.

There is a place for the individual assignment, for group work or for class work, according to varying circumstances. Models can be made to illustrate or introduce some historical or geographical topic. Picture-charts and diagrams, and picture friezes of cut-outs or drawings, can readily be built up by individual children, by groups of children, or by the class as a whole. Pictorial matter of many kinds must play a large part in the work, and in this the strong appeal of colour and clear-line drawings should be used. The teacher should seek to gather as large a collection as possible to be available at any time. The individual and/or class scrap-book will be an invaluable aid in training children to collect and present information. The child will derive a sense of pride and achievement from his home-made encyclopaedia. The child's work must be purposeful. Whatever activities the children pursue should form the basis of acquiring knowledge, and the teacher should ensure that factual information is being continuously absorbed. Having served its purpose, the work, whether individual or collective, should be removed from the table or the walls of the classroom so that there is an ever-changing display. Certain items may well be retained out of immediate view to form the basis for revision or the stepping-stone to future work.

Every possible use should be made of dramatic work in teaching History and Geography. Puppetry and miming can be most effective media. A simple dramatic representation, such as a play, mime, or puppet-show, enables children to enter fully into a story—not only into the characters of the persons and into the actions involved, but also into the background against which the incidents took place. For example, before they can dress suitably to participate in a dramatic scene, the children will need to examine with great care

pictures of the people they wish to represent, and before setting the stage, they will need to scrutinise pictures giving details of the type of buildings in which the characters in their play actually lived, and the kind of furniture they used. In producing a dramatic representation of a general theme, such as life in a lumber-camp, they will need to learn something about the equipment and techniques used by the lumber-jacks in felling and hauling timber, the kind of clothes they wear, the food they eat and methods of cooking, and they will need to learn the various species of trees in the forests. Miming is particularly valuable for children who have not yet learnt to read. The teacher recites the words of a dramatic incident, and the children—as a group, or as individuals if they have been given “parts”—accompany her words with suitable actions.

A most useful approach to the two subjects under review may be found in the child's immediate surroundings. The home, the school, and the town or village may provide starting-points for projects.

A school journey, with its preparation and follow-up, will open out new vistas, provide unlimited opportunities for discovery and research, and serve to enlarge the child's experience. Moreover, visits to places of interest provide excellent opportunities for social training.

Written work, though necessarily limited by the child's ability, will also play some part in this scheme. Suitable captions, phrases, or sentences may accompany illustrative work. With certain dull children, the teacher may be called upon to write the actual caption or sentence. Other children will be able to answer questions by the insertion of missing words, or by using the words of the questions in their answers. Some children will delight in compiling lists of requirements, in collecting labels, and in recording facts in simple pictorial or diagrammatic form (e.g. the weather chart). Written work, commensurate with the child's ability in written English, should be attempted even though the teacher will frequently have to give direct help to the dullest child.

There is need for a large number of books. Reference books, copiously illustrated, should be readily available. Single copies of all types are recommended in the main for the dull children rather than complete sets of readers, though several copies of the same reader might be necessary for group work. Assistance may be given to the dullest children by the insertion of book-marks. Reference cards, illustrated and with captions, will assist the child to find information

for himself. A picture library will appeal to many children. Simple pictorial atlases should also be available. Maps might be built up from outlines and be completed with pictures and captions.

It will be readily seen from the foregoing that this work can be correlated with most subjects of the curriculum.

By subjects well chosen, by work well prepared, and by tasks well completed there may be created, even in the mind of the dull child, an awareness of people and things, an inquiring approach to life, and a breadth of outlook which will help him more readily and more happily to serve his fellow men.

II. Methods of Presentation

A scheme of work based on "projects" is probably the best approach to the teaching of History and Geography to dull children. This type of work involves the entry of the dull child into communal life and activity, providing him with an incentive to mix well with his fellows and to give of his best for the common good. It affords scope for the alert teacher to utilise the child's individuality to the full in the treatment of the subject; to correlate, where thought advisable, the two subjects under review; and in classes of widely mixed age- and ability-ranges, to see that there is appropriate work for all children according to their needs and capabilities. Abler children can enter into deeper research work and occasionally supervise and help the less intelligent or younger children.

The two subjects of History and Geography are closely interwoven, but care should be taken to see that a sufficiency in scope of work in each subject is covered. Some teachers may prefer to treat the subjects entirely separately, but where they are correlated, an analysis of the completed project should be made, to ensure that a full and comprehensive scheme of work has been covered during the primary school period. The teacher should keep a record of the work done, visits paid, models made, stories told, and books used, and be prepared, as occasion demands, candidly to assess the value of any project.

A list of suitable topics which have been proved successful in practice is given on page 143. It is not intended that this list should be regarded as exhaustive. It is also appreciated that the choice of topics will vary with the needs of a particular school. Although the length of time spent on any project depends on its type, in general one month is recommended as the appropriate period to be spent on

each. *Man—his work and play, his needs and wants, food and shelter, the story of his progress*—will be the main theme throughout. Subjects chosen for development should be close to the children's experience and worked out in detail. They will be closely connected with the things which are themselves domestic and personal. The child should proceed from the known to the unknown.

III. Contents of Syllabus

No attempt will be made in this book to draw up for dull children syllabuses in History and Geography, or to formulate minimum standards of knowledge that should have been acquired by these children in these two subjects before they proceed to the secondary stage of their education.

There are several reasons for this. In Arithmetic and English, certain suggested minimum standards were set down in the skills that dull children should have acquired according to mental development and their *Mental Ages* at any given time. History and Geography are concerned, however, not so much with skills as with factual information, and here the field is almost unlimited. The mental limitations of the dull child will not determine what the teacher should teach in History and Geography, but rather how she should teach it and to what depth the subject should be studied.

The main factors that will determine the syllabus for History and Geography for dull children in any school will be the interests of the children and the teacher, and the environmental background of the school. A syllabus that would be suitable for one school would be impracticable for another.

It is perhaps of greater importance at the primary stage that the interest and curiosity of the children in these two subjects should have been stimulated to such an extent that a firm basis is prepared for work in History and Geography at the secondary stage.

IV. Suggested Topics

A. Topics which can readily be Used to correlate History and Geography

Our Town.

Public Services:

the postman;
the policeman;
the roadman.

The Farm.

Our Food—the breakfast, dinner,
and tea table.

Transport.

The Seaside.

Clothes.	Our Capital.
Homes.	News.
Games.	Christmas.
Hospitals.	Topical Events.

B. Topics which are basically Geographical

Our Food.	Transport—rivers, canals, railways, roads.
Making Maps.	A Canadian Forest.
Our Clothes.	The Prairies.
Our Homes.	A Tea Plantation.
Work in Our Town.	A Rubber Plantation.
A Journey round a Specified Region—the Mediterranean, the Nile, by <i>Comet</i> to Johannesburg.	

(Each of these topics can readily be used to compare and contrast life at home with life in other countries.)

C. Topics which are basically Historical

- (1) *A 'Patch' of History*, e.g. the Tudor Period.
- (2) *Great People*, e.g. St. Augustine, King Alfred, Richard of the Crusades, Columbus, Drake, Florence Nightingale, Livingstone, Madame Curie.

V. Suggested Development of Individual Topics

A. Correlated Topics—History and Geography

1. OUR TOWN

Geographical Material

Simple plan, showing main roads, important buildings (opportunity for traffic census), railway stations.

Industries—from raw material to finished article.

Social activities.

Types of people:

the artisan;

the craftsman;

the professional man.

Throughout the development models will be made, visits will be

Historical Material

The growth of the town—its Charter, its Council, its historical background (monuments, buildings, and records of people).

Houses—how the town has changed (migration of population).

undertaken, plans will be drawn, information sought, and pictures (including local views) will be displayed.

There may be opportunity for inviting suitable individuals to talk to the children about their work. Suitable questions to be asked might be discussed with the children beforehand.

2. THE BREAKFAST TABLE

Geographical Material

The food we eat—where produced, how produced.

The furniture—woods and where they come from.

The cutlery and crockery—where produced, how produced.

Life in countries from which we get our food.

Children can collect labels (preserves, cereals), pay visits to local works, lay the breakfast table, and dramatise procedure at the table (social training). A visit to a café in the form of classroom dramatisation.

B. Topic—Basically Geographical

Skeleton outline for development of topic which would take a longer period to complete:

TRANSPORT

1. TRANSPORT TO-DAY

Means of transport to-day with which children are familiar:

- (1) *Air*—military and civil.
- (2) *Sea*—Royal Navy and merchant ships.
- (3) *Land*—train, bus, lorry, etc. Roads to-day.
- (4) *Inland Waterways*—canals, rivers, etc.

Development (linking with Geography)

(a) *Air*

Fastest aircraft—military and civil.

Names familiar to all children—*Jet, Canberra, Constellation, Britannia*.

Historical Material

History of cooking utensils.

Man's food throughout the ages.

Development of industries connected with the topic.

Table and chairs in past times.

How fast do they fly?—6½ hours to Cairo, etc.

Development of helicopter. Present services. World routes.

(b) *Sea*

Differences between the Royal Navy and the Merchant Navy Service. The Red and White Ensigns.

Stirring accounts of the valour of H.M. ships in enemy waters (Korea).

Epics of the sea which have recently occurred.

Life at sea in, say:

a modern liner—*Queen Mary*;

a fishing vessel;

a submarine;

a whaling ship in Antarctic waters.

(c) *Land*

Rail—

Recent experiments with monorail travel in Australia.

Driving the "Flying Scotsman"—dramatic reconstruction.

Visit to a railway station to see departure of trains.

Actual journeys.

What does a modern train consist of?

Size and capabilities of various types of locomotives (work here for 'loco-spotters').

Restaurant car—how meals are served at speed.

The mail coach—letters being sorted on journey. Description of countryside.

Bus—

The day in the life of a bus driver—clear-eyed, clear-headed drivers who take us in safety.

The men at the garage.

Time-tables.

Linking of bus and train services.

Lorries—

Driving at night. The lorry driver's important loads.

Supper in London—breakfast in Liverpool.

Important cargoes coming by road *en route* for all parts of the world.

Links with ships.

(d) *Inland Waterways*

Ships sail into Manchester, which is not a port in the accepted sense. Goods which travel up the canal daily.

Canals near at hand which are well known to the children.

A bargee's life—importance of his work.

2. *TRANSPORT YESTERDAY*

(a) Earliest travel in hollowed-out tree-trunks—link here with geography—primitive peoples who still use this mode of transport. Coracles in Britain.

(b) Early adventurers—voyages—types of ships used.
Early Roman ships—Roman chariots.

Now link with development of roads in Britain.

Roman roads—how made—why straight.

Mention Roman roads in Cheshire and elsewhere.

Viking raids—model Viking ship.

(c) Importance of the horse in Norman times—war and pack horses.
Mediaeval travel—the Elizabethan coach. The days of the high-waymen—coaching days.

Coming of steam—Stephenson's "Rocket". Watt's steam-engine.

Telford and Brindley—their work in road and canal travel.

Gottlieb Daimler (first motor-cycle).

3. *TRANSPORT TO-MORROW*

Supersonic aircraft (the sound barrier).

Atomic propulsion (U.S. Navy's submarine *Nautilus*).

Inter-planetary travel.

2. *PRACTICAL WORK IN CONNECTION WITH A TOPIC*(a) *Aircraft*

Collection of pictures of modern aircraft—and scale models on sale.

Constructional outfits (pieces to be glued together). Class construction—cardboard and carved wooden models.

B.O.A.C. menu cards, fare lists, etc., for scrap-book.

Collect pictures of early aircraft—balloons, etc.

Modern fighter aircraft in Korea.

Visits to airfield to watch arrival and departure of 'planes (Speke, Ringway).

(b) *Ships*

Collect pictures of ocean-going ships. Paint or crayon house flags and international semaphore flags. Models of ships in cardboard and wood.

Ships of the past—constructed in cardboard, stiff paper, etc.—Greek, Roman, Viking, Elizabethan, etc.

Construct "Plasticine" models of harpooning a whale, etc.

Friezes of primitive travel in Arctic and tropical waters.

Make Kon-Tiki raft in miniature and show the four thousand miles' journey on a single map.

Ship adoption—letters to crew (via teacher).

(c) *Railways*

Visits to museums (if available) to see working models of early steam-driven vehicles. Still some in use to-day—particularly in flour-delivery trade.

Erect model railway set—preferably working electric model or Hornby clockwork set to illustrate working of points.

How train stops on rails—signal system, etc.

Enlist help of 'loco-spotters' to assist children to identify main-line trains and types of locomotives.

(There are some excellently illustrated train books on the market at reasonable prices.)

(d) *Buses, Lorries, etc.*

Utilise children's own toy cars, etc., to illustrate modern designs. Hornby cars and trains fascinate children.

(e) *Roads*

Drawings of a new road being made and the machinery and men, etc., concerned in its construction.

Street map to be attempted—roads near home and roads near school. Give children time to look at the roads and copy down the correct names.

(f) *Horses*

Drawing, painting, and modelling.

Collect pictures of horses as we see them to-day; ploughing, being ridden for pleasure, hunting, racing.

Historical pictures from magazines like *Everybody's Weekly, Picture Post*, etc., showing the horse in other times.
Film-strips (sparingly); relevant School broadcasts.

C. Topic—Basically Historical

TUDOR ENGLAND

Simple model of an Elizabethan house.

The theatre of Shakespeare's day—compared with that of to-day.

Miracle plays performed in inn yards and churches—link with Chester Cathedral.

Churches to be visited.

Famous ships of Elizabeth's day—famous men of Gloriana's day.

Weapons of the Tudors.

Dress: compare to-day's with the ornate dress of Elizabeth's Court.

Travel—the first coach in England, made for Lord Rutland in 1555. Compare travel now and then—dangers.

Compare children's games now and then.

This last topic is excellent, since it can be developed to compare and contrast life under Elizabeth I and Elizabeth II. Contrast homes, schools, lives of children, lives of grown-ups, travel, etc., now and then.

Reference Books

Title	Author	Publisher
Social History	G. M. Trevelyan	Longmans
Everyday Things (6 Vols.)		Cassell
Experiments with a Backward Class	T. E. Taylor	Methuen
Actuality in School	Cons and Fletcher	Methuen
Individual Work in Primary Schools	C. H. Fleming	Harrap
Social Experience in the Junior School	C. Warr	Methuen
Activity in the Primary School	M. V. Daniel	Blackwell
Primary Education	Scottish Ed. Dept. Report	H.M.S.O.

Title	Author	Publisher
Basic Requirements of the Junior School (good bibliography)	North-Eastern Junior Schools Association	University of London Press Ltd.
History Through Great Lives (8 Vols.)	Bellis and Martin	Cassell
History of Everyday Things in England (4 Vols.)	M. and C. H. B. Quennell	Batsford
Look at the Past (series)	M. Schroeder	Chatto & Windus
History Through Familiar Things	J. R. Reeve	University of London Press Ltd.

The following Leaflets are very helpful:

No. 7—Book List for Teachers of History in the Junior School	H. Dent	The Historical Association, 59a Kennington Park Road, London, S.E.1
No. 10—A School Library List (gives details of illustrated books)	G.K. Mellor	
	A. M. Best	
No. 13—Story Telling The School Looks Around New Teaching for a New Age	Layton and White Glover	Longmans Nelson

The Puffin Books:

(a) *Geography*

1. About Maps	P. Hood	Penguin Books
2. The Arabs	R. B. Sargent and E. Bawden	Penguin Books
3. Lo-Cheng	C. Yee	Penguin Books
4. Mitla and Lupe	J. Sancha	Penguin Books
5. Pottery and its Making	J. Thomas and M. Sikes	Penguin Books
6. The Story of China	Tsui Chi and C. Jackson	Penguin Books
7. The Magic of Coal	P. M. Hart	Penguin Books
8. Village and Town	S. R. Badmin	Penguin Books
9. The Story of Tea	A. Skibbutts and C. Hutton	Penguin Books
10. The Story of Iron	J. B. Fortune and P. B. Mann	Penguin Books

(b) *History*

1. A History of the Countryside	M. and A. Potter	Penguin Books
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<i>Title</i>	<i>Author</i>	<i>Publisher</i>
2. The Building of London	M. and A. Potter	Penguin Books
3. Early Man	D. P. Dobson and J. Baynes	Penguin Books
4. Air Liners	J. Stroud	Penguin Books
5. A Book of Ships	A. C. Hardy and W. Megoran	Penguin Books
6. A Book of Trains	Bassett Lowke and Courtney	Penguin Books
7. English Fashions	J. Mortimer and V. Ross	Penguin Books
8. Village and Town Puffin Cut-out Book:	S. R. Badmin	Penguin Books
A Half-timbered Village	L. A. Dovey	Penguin Books
The Tower of London	Carkeet-Jones	Staples
History Through the Ages, I-IV		Oxford
The Story of Britain Told in Pictures	Airne	Hope & Sankey Hudson
The March of Time: Mighty Men and Mighty Deeds		Grant Educational Co.
Lands and Life	Horniblow	Grant Educational Co.
Columbus Regional Geog- raphies	Brooks and Finch	University of London Press Ltd.
How the World was Discovered	Cobb	Arander Books
Modern World Book of Ships, Motors, etc. (a series)		Sampson Low
Britain and Her People (Modern Knowledge Series)		Ward Lock
Warne's Book of Engineering Wonders	V. Carr	Warne
Story Book of Wheat		Wells, Gardner, Darton & Co.
Story Book of Silk, etc. (series)	M. and M. Petersham	
British Railways for Boys	C. J. Allen	English Universities Press
Your Father and Mine	R. D. Bramwell	E. J. Arnold
The Book of Power	J. Lawrence	Warne
Sir Francis Drake	J. A. Williamson	Collins
Rockets and Jets	Way and Green	Wells, Gardner, Darton & Co.
Open Your Eyes Picture Book: Look at the Past	M. Schroeder	Chatto & Windus

<i>Title</i>	<i>Author</i>	<i>Publisher</i>
Part I Homes	M. Schroeder	
Part II Food	M. Schroeder	
Part III Clothes	M. Schroeder	
Open Your Eyes: The World and You	F. G. Thomas	Chatto & Windus
Book I Part I The Village	F. G. Thomas	
Part II Historic City	F. G. Thomas	
Book II The County	F. G. Thomas	
Where Does it Come From?	Ed. Fawcett	Gawthorne
Our Food and Our Clothes	H. Alnwick	Harrap
The Pageant of English People	Priestly	Macdonald
Children of Other Days (series)		E. J. Arnold
The March of History (series)		McDougall
Pictorial Education		Evans
National Geographical Magazine		Chatto & Windus
Cheshire Life		Whitehorn Press
The Cheshire Historian Books, 1-3		

Chapter IX

TEACHING MUSIC

I. The Need to Discriminate between the Mentally Dull and the Musically Dull

Not all mentally dull children are musically dull, and it is the latter, who in the main form the problem in teaching music.

Musicality, the ability to listen to and to make music, is thought to depend not only on general intelligence but also on other special gifts, such as the ability to:

- (a) respond to pulse;
- (b) recognise pitch;
- (c) memorise rhythm and tune.

Absence of these special abilities may cause children of high general intelligence to be musically dull.

Furthermore, since singing is rightly the basis of much of the music teaching at the primary stage, apparent dullness in this branch, due again to the absence of specific abilities, may lead to the assumption that a musical child is musically dull. Mental and physical defects which may result in the absence of special musical abilities employed in singing include:

- (a) deafness, adenoids, physical defects of the vocal apparatus;
- (b) inability of children to "find their own voice", sometimes attributable to the environment in which their early years have been spent;
- (c) a "dull ear", insensitive to finer changes of pitch;
- (d) inability to control properly the vocal muscles.

From all this it would seem that the child who appears dull in the singing lesson is not necessarily dull musically. *Moreover, the dull child is not necessarily lacking in musical ability.* Children of average and superior intelligence can be dull musically.

II. General Aims in Teaching Music

The general aim of teaching Music to mentally dull children may be summarised as follows:

(a) To develop the spontaneous response which most young children make to music, and to provide for its continuous development as a means of expression and a source of enjoyment.

(b) To furnish healthy tastes in music.

(c) To take full advantage of the Music lesson to bring dull children into partnership with their more gifted fellows and thus to increase their self-confidence and self-esteem.

(d) To provide opportunities for shared emotional experiences.

To achieve these objectives two general principles need to be observed:

(1) The musical experiences of the children should be as interesting, as enjoyable, and as diverse as possible.

(2) The musical education of the children should be based on active musical experience.

The teacher should be a genuine lover of music who is prepared to encourage the dull child by giving him activities within his capacity so that he may eventually derive real pleasure from music.

III. Requisite Conditions for Teaching Music

To provide fully for the musical education of all children, including the dull, each school should possess:

(a) a teacher who is a genuine lover of music and preferably able to play a musical instrument;

(b) a good piano;

(c) a good record-player and an adequate supply of gramophone records;

(d) a set of percussion instruments and recorders;

(e) adequate space for free movement to music;

(f) a good stock of suitable music for singing, percussion work, movement, etc.

Since interest is the root of all educational progress, it is essential that everything possible shall be done to interest mentally dull children in music. Visits to concerts, recitals, exhibitions of musical instruments, music festivals, ballet performances, and so on are all to be recommended whenever suitable opportunities are to be found.

IV. Organising the Work

A. At the Infant Stage

At the infant stage no attempt should be made to segregate mentally dull children for the teaching of Music nor to provide for

them a scheme of work or methods of work different from those provided for the other pupils. At this stage children are encouraged to express music through movement, to discern differences in rhythm and pitch, to sing in tune, to listen to music, and to become acquainted with the elements of musical notation. The rate of progress made in these branches of music varies greatly between one child and another. For example, the mentally dull child often excels at expressing music through movement, and many dull children who find great difficulty in appreciating differences in *pitch* have a strong sense of *rhythm*. Much of the teaching at the infant stage depends on imitation—children learn the scale, songs, and the elements of notation by imitation, and the dull child learns much from his abler fellows.

B. At the Junior Stage

At the junior stage the differences in attainment between the dull and normal pupils become more marked, and it would be unwise always to demand of the former group the type of work that may reasonably be expected of the latter. There are, nevertheless, certain branches of Music in which all pupils may and should take part together: e.g. the singing lesson, percussion-band work, movement to music, and listening to music; these activities should be shared by all pupils, and no attempt should be made to segregate the mentally dull children. In other aspects of music, such as sight reading, musical dictation, and melody writing, the inability of the mentally dull children becomes more marked, and it is desirable that for these activities pupils should be grouped according to their musical ability, and be provided with activities within their capacity. It is, for example, unlikely that the dull will ever be very competent at writing music from dictation, reading accurately in pitch, or composing simple melodies. They may derive considerable satisfaction from additional rhythm work (in movement or percussion band), in the composition of rhythm patterns, and from listening to music.

V. The Cultural Value of Music

Many opportunities arise in the life of the school when dull children may be given parts to play in the musical activities—acting as

librarians, distributing music, erecting music stands, assisting in working the record-player, dusting the piano, distributing and collecting percussion instruments, and so on—parts which will often do much to foster an interest in, and may lead to, a love of music that may do much to add to their enjoyment of the finer things of life, and give them a sense of responsibility and a knowledge that they have something to contribute to the life of the community.

Although much has yet to be learnt of the therapeutic properties of music, it is now generally acknowledged that music is of great significance in the emotional development of the child. Release obtained through expressing music through movement, dance, and joining in song with other children, in listening communally to good music well performed, is of great value to all children and to the dull child in particular.

Spiritual development, too, comes partly through the appreciation of the beautiful in Music, Art, and Literature, for beauty, truth, and goodness are a trinity. They are the expression of man's spirit at its highest level, and by communion of spirit with spirit comes spiritual growth. It is not possible wholly to assess or measure the contribution made by music to the growth of the spirit, but it is reasonable to suppose that music which can and obviously does touch the hearts of children, both bright and dull, leaves them the richer and the better for that experience.

The tone of a school is something which can be felt and experienced yet cannot be defined. It will be generally accepted that a school with a strong corporate life has a richer tone than one in which the feeling of community is absent. Music provides many opportunities for developing the corporate spirit and for working for the good of the school rather than for personal gain. The very acts of music-making and of listening to music together, by providing a common experience in which all may actively participate, are no mean forces for welding the individual members of the school into a corporate whole, in much the same way as the corporate act of worship tends towards the same end.

The dull children have their part to play in these activities either as active performers or in their preparation, thus contributing to the community spirit which forms the basis of a satisfactory tone in any school. It is for this reason, among others, that the inclusion of good music in the school assembly is recommended. Not only should suitable hymns be chosen—of which both the words and

music are appropriate—but good music should be listened to as part of the act of worship.

The development of good taste in music, as in other things, depends to a large extent on the environment in which the child is educated. It is believed that a liking for the beautiful things in life is caught rather than taught, and it is therefore important that the music presented to the child—whether music for songs, hymns, percussion, movement, or listening—should always be of the best. The choice of music should be catholic, and should reflect an understanding of the child's mind. For example, young children and dull children are unable to listen attentively for long periods; generally, romantic and pictorial music has a more immediate appeal than classical and formal music; music with a strongly marked rhythm is more easily appreciated by dull children than music of less rhythmical character, although it must be remembered that dull children are also attracted by *colour* in music. In order that dull children may be encouraged to listen attentively to music, it is often advisable to find some bodily activity to link with the music, e.g. movement of the whole body or of part of the body (arm, fingers, etc.), percussion playing, theme tracing.

Throughout this book music has been held to be a spiritual and a vital creative force that should be included in any curriculum designed to provide a balanced education for all pupils. Music may be considered of particular importance for the dull inasmuch as it offers occasions when the dull may participate in activities on an equal footing with their brighter fellows and share with them the spiritual and emotional experiences which music can provide. Reference has already been made to the importance of this in building up confidence and self-respect in the dull; these occasions can also be of great value in the cultivation of desirable attitudes and for developing social training. Most musical activities in the primary school are those which call for co-operation, for good team-work, for the subordination of self for the good of the whole in order that full satisfaction may be achieved. For these reasons, if for no other, music should play an important part in the education of mentally dull children. Music, however, has its own intrinsic value—mental, spiritual, and emotional—a value that defies definition but which is none the less real—and forms an integral part of our national culture and heritage, in which the dull child as well as the bright may participate.

Reference Books

<i>Title</i>	<i>Author</i>	<i>Publisher</i>
Music in the Primary School	H. Watkins Shaw	Dobson
Teaching Music in Schools	James Mainwaring	Paxton
Teaching Music to Classes	Charles Hooper	E. J. Arnold
Music and the Community	The Cambridgeshire Report	Cambridge
Musical Foundations	J. E. Borland	Oxford
Music through the Percussion Band	Yvonne Adair	Boosey & Hawkes
The School Recorder Handbook	Priestly and Fowler	E. J. Arnold
Ear Training	Mabel Chamberlain	Novello
Playing with Music	Charles Hooper	E. J. Arnold
The Psychology of Music	Carl Seashore	McGraw-Hill
Education for Musical Growth	J. L. Mursell	Ginn & Co., N. York
Infant Joy	D. McMahon	University of London Press Ltd.

Chapter X

NATURE STUDY

I. Aims

THE aims of Nature Study teaching can be summarised as follows:

- (a) To stimulate the child's wonder and curiosity, so that he becomes aware of his natural environment and learns and appreciates much which will enrich his experience.
- (b) To encourage in him a humane attitude towards living things so that he may "see and admire, not harm or destroy".
- (c) To train him in careful and detailed observation.
- (d) To develop in him a realisation of the interdependence of plant and animal life.
- (e) To provide him with valuable leisure-time interest.

II. Some General Principles

Nature Study can play a most important part in the mental, spiritual, and emotional development of the dull child, whether urban or rural. In addition, it leads to a breadth of outlook and an understanding of the essential facts of life which raise the value of rural occupation and increase their dignity.

If the solution to the education of the dull child is to be found in the handling of material things and the development of interests which appeal, then the value of Nature Study, with its wealth and variety, cannot be over-emphasised.

To young children generally, plant and animal life has a natural appeal. The school should do everything possible to stimulate and develop this interest by bringing the children into close contact with living things. The degree of success will depend upon the personal interest and enthusiasm of the teacher.

There is no need to segregate the dull from the more intelligent children for Nature Study. The dull child can often shine in this subject.

III. Schemes of Work

Although schemes of work followed by individual schools must be largely determined by environment, the subject can be conveniently divided, with emphasis on the practical side, into work in:

- (a) the classroom;
- (b) the school garden;
- (c) the countryside.

Studies should be seasonal, based on the growth cycle, both plant and animal, dealing with germination or birth; period of growth; ripening and harvest or maturity; preparation for winter (hibernation, fall of leaf, etc.).

A. The Classroom

Nature Study can never be wholly satisfactory if it is confined to the classroom. It then becomes unrealistic, and specimens divorced from their habitat are less likely to stimulate in the child an awareness of his surroundings. Living specimens should, as far as practicable, be studied in their natural setting. Inclement weather and, in urban schools, the limitations of the environment will frequently necessitate classroom studies. A nature table should be a prominent feature in every classroom, as it provides for both communal and individual activities and interests. Specimens should be clearly labelled, attractively arranged without overcrowding, and frequently changed. A dull child derives a genuine satisfaction from seeing one of his "finds" exhibited and having his name entered on the record chart of wild-flower collections, etc.

Seeds can be collected, classified (annuals, biennials, perennials) germinated under various conditions, and, in many cases, the complete life-cycle of the resulting plants studied. A simple experimental approach can illustrate the functions of root, stem, and leaf.

Growing plants, cut flowers, bulbs, and indoor gardens should be prominent features in the classroom. They provide good social training and can be a source of much profitable inquiry and interest. Dull children can, and should, accept equal responsibility with the intelligent in the arrangement and maintenance of these features.

Suitable livestock—such as rabbits, hamsters, cage-birds, and creatures which can be housed in aquaria—are excellent centres of interest and satisfy the emotional needs of the pupils.

Vivaria and breeding-cages for insects provide opportunities for the study of complete life-cycles, and will appeal to the sense of curiosity and wonder. Uncommon creatures are not essential; the common ones are equally interesting and their food is more easily obtained.

The child should be encouraged to bring his pets to school occasionally. This gives the dull child particularly a sense of pride and achievement and something to talk about.

He should be taught that animals and pets should be kept under the best hygienic conditions, and that their well-being and health are of the utmost importance. The care and maintenance of these animals can do much to develop a sense of responsibility and inculcate kindness, consideration, and sympathy.

Association with Other Subjects

Nature Study affords ample opportunities for associated work with other subjects, particularly English, Local Studies, and Art/Craft. In all its aspects, and to children of all ages, it offers splendid opportunities for spontaneous oral expression. The dull child should not be expected to produce much original written work or, in many cases, any written work at all, as some will be unable to read or write. Insistence on work beyond his capacity will destroy his enthusiasm for the subject. His observations and activities will, however, stimulate his desire to talk and so develop his language and vocabulary.

As he grows he may be encouraged and even helped to write a few words (the meaning of which he understands) about what he sees and does.

Expression work will, however, be confined chiefly to simple illustrations. These can form simple progressive records of bird, plant, and animal life. Although accuracy of detail should not be expected, the illustration should contain the essential features of what is being portrayed. Pictorial weather records are also within the capacity of the dull child. Records of all kinds may be individual and/or communal, and should be in bright colours.

Nature Study will provide many subjects for the Art/Craft lesson. Individual leaves and simple flowers form a good basis for all-over patterns. Models of all forms of natural life can be made in plaster and clay and subsequently painted. Plaster casts, leaf prints, and bark rubbings are other possibilities. These forms of practical expression have a stronger appeal than written descriptive work.

B. The School Garden

In primary schools, while considerable prominence should be given to flower growing, dull children particularly should be able

to cultivate some quick-growing common vegetables where facilities exist. Such work creates a sense of pride, satisfaction, and achievement, particularly as the dull child can often attain a good standard of craftsmanship. The mere handling of the soil is a source of emotional satisfaction. Appropriate praise and encouragement by the teacher should be given at every possible opportunity.

In the garden the dull child should learn to recognise the species and varieties of plants at the different stages of their seasonal growth. Flowers thus grown may be taken into school and be used to decorate the dining-room and classrooms.

Bird baths and bird feeding-tables can be made, and simple nesting-boxes in suitable places can provide fascinating studies.

If possible, a rockery and lawn should be constructed. The lawn would be a class meeting-place and provide a natural foreground for the flower-beds. A never-ending source of interest is available in planning plant situations each year to provide a general colour scheme of beauty. Where possible, a small pond will be an asset.

A dull child must be taught to take a pride in the care and orderly storing of garden tools.

C. In the Countryside

The importance of first-hand studies in the natural habitat has already been emphasised. Walks in the countryside, especially where there is flowing water, offer innumerable subjects for interest and study, such as:

- (i) appearance of trees in the different seasons;
- (ii) habits, nests, and songs of birds;
- (iii) recognition of common wild flowers; where and how they grow;
- (iv) erosion of soil on the bends of streams and rivers;
- (v) the larger forms of life in and by streams, rivers, and ponds.

(These are subjects of exploration and adventure.)

Through visits to a farm the child is brought into close contact with the full life of the countryside and revels in being with the farm animals. Farm operations through the seasons are also a source of great interest, and farm studies can enrich the whole of the curriculum.

The teacher in the town school finds much material for study in the parks and zoological gardens, many of which are very richly endowed with tree, plant, and bird life. Park superintendents and

gardeners are usually willing to co-operate with the teachers, as it is realised that good social training at an early age will lead to appreciation and preservation of the amenities of the district and of the countryside generally.

There should be a wide range of well-illustrated books to which the child can have access, for it must be recognised that the dull child has little ability for reading text. The illustrations will satisfy a thirst for knowledge created by his outdoor work. He should be encouraged to find the answers to his questions, thus developing judgment and self-reliance.

In the classroom, garden, and countryside the main function of Nature Study will be to inculcate a reverence for all living things, an appreciation of the beauty of the natural world, and a feeling of wonder and awe at the immense variety and complexity of life. Emotion and spiritual experiences will arise naturally from the care and maintenance of plants and animals and from the child's close contact with his environment.

The attitudes which will be developed by these experiences will do much to mould his character, and the interest acquired will be of lasting value, as he will remain in contact with nature in some form during the whole of his life.

Reference Books

Title	Author	Publisher	
<i>Daily Mail</i> School Aids:			
Birds and Butterflies	E. Hosking	<i>Daily Mail</i>	
Bird Watching	Stuart Smith		
Birds	French		
Bird Migration	F. Lane		
Flight of Birds, Bats and Insects	E. H. Ellis		
Butterflies (Nos. 1 and 2)	Clegg		
Pond Life	Hosking and		
Insects of Pond and Stream	Newbury		
The Cuckoo	Bateman		
The Aquarium		B.B.C. Publications	
Nature Study Pamphlets	E. M.	A. & C. Black	
Nature at Work (Books 1-3)	Stephenson		
Nature Study and Rural Science (Teachers' Book to Nature at Work)			

Title	Author	Publisher
Birds and Their Ways	F. M. Haworth	Blackie
Natural History Series:	}	University of London Press Ltd.
Book I Aquaria	}	}
Book II Pond Dwellers	}	}
Book III Wasps	}	}
The Children's Nature Books:	}	}
My Book of Birds	M. Daunt	}
My Book of Flowers	K. Harvey	}
My Book of Animals and Trees	K. Harvey	}
My Book of Insects, Seashore Animals, and Fish	Harvey and Lay	}
School Nature Study Union publications	}	Macmillan

The undermentioned books are graded from the Infant Stage:

Jack and Jill's Farmyard Friends (11 in. x 8½ in.)	News of the World
Hercules Board Books: Favourite Animals (11 in. x 8½ in.), Ages 4-7	Nelson

More books for Juniors:

The Golden Nature Readers (Books 1-4)	E. V. M. Knight	University of London Press Ltd.
Young Naturalist Series	Brockhampton Press	Macmillan
My First Nature Book	Enid Blyton	Parrish
The Wonder Book of Animals	Marie Neurath	Publicity Products
A Child's Book of Horses	E. Joseph Dreany	Publicity Products
A Child's Book of Dogs	L. M. Henderson	Warne
Tales of Wild Folk Series	Cecily M. Rutley	Chambers
Children's Book of British Birds	G. D. Fisher	Collins
Getting to know British Wild Animals	David Stephen	Collins

Chapter XI

PROBLEMS OF ORGANISATION

THE declared intention of the Cheshire Education Authority in its Development Plan is to establish primary (i.e. infant and junior) schools of one-form entry wherever possible. In the meantime, the accommodation of existing schools varies from that of the one-class school to that of the four-form entry primary school. It is impossible to generalise as to the ideal pattern of class organisation, taking into account the educational needs of dull pupils.

A. In Schools of Two-form Entry and Above

In schools of two-form entry or greater, the problem of "streaming" arises. At the infant stage there is little to commend streaming by ability and attainment: the better method of forming classes is to put together children of similar ages. At the junior stage, however, it is possible to classify children in accordance with their level of mental ability and their standard of scholastic attainment on results based upon group Intelligence and Attainment Tests. The children have advanced sufficiently in both experience and skill to make group tests practicable, and suitable test material is available, e.g. The Simplex Junior Intelligence Scale, The Otis Test of Ability, The Moray House Junior Tests, The Northumberland Mental Tests, The Southend Attainment Tests in Mechanical Arithmetic, The Holborn Reading Scale, The Sleigh Non-verbal Test, Vernon's Revised Version of Burt's Graded Word-reading Test, etc. The results of standardised and objective tests alone will not be sufficient to classify children accurately at this stage. It will be necessary to use, in addition, subjective assessments compiled by teachers.

There will still, however, be some difference of opinion whether classification in accordance with mental ability and standard of attainment should be made during the junior stage in these larger schools of two-form entry and over. It may be maintained that such an organisation would tend to emphasise the importance of the subject, that children at this stage are too immature to adjust themselves to such an attitude, and that heterogeneous classification should be continued in the junior school for some time at least. It

may be well at this stage to set down some of the arguments made in support of both methods of classification:

Supporting the Classification of Children by Intelligence and Attainment

- (i) It is easier to provide a suitable curriculum for a more homogeneous group of children, and to endeavour to ensure that a uniform standard of attainment is achieved in each subject.
- (ii) The bright children will not be retarded by the dull; and the dull will not be overawed by the bright.
- (iii) The same degree of diversity of teaching method is not required.
- (iv) It is less wasteful of teaching time and energy.
- (v) Where formal class-teaching is to be given, it is essential that the children should be classified according to their Intelligence and Attainment.

Supporting the Classification of Children according to Terminal Intake

- (i) Such an arrangement of heterogeneous groups coincides more closely with the conditions of everyday life.
- (ii) The bright children are able to assist the dull; the dull may be stimulated by the bright.
- (iii) The teacher is able to give the dull children the personal attention they require while the bright children are working on their own.
- (iv) When the children are streamed according to Intelligence and Attainment, the teachers in charge of the "B" and "C" classes have a high proportion of difficult children, and cannot give them all the personal attention they require.

There is still some difference of opinion about which of these methods of classification should be preferred, and continued investigation and observation will be necessary before a conclusive solution can be obtained. It has been the practice in the larger primary schools, of two- or three-form entry, maintained by the Cheshire Education Authority, for head teachers to classify children according to terminal intake up to the age of 7, and according to Intelligence and Attainment in the Junior Departments after the age of 7. This is considered a sound policy.

Where the head teacher of a two- or three-stream junior school feels that classification according to terminal intake should be prolonged until children reach the age of 9, there could be no objection

to such an arrangement. Classification according to Intelligence and Attainment should not be delayed in schools of this size after the children have attained the age of 9.

Three-form entry schools should be organised to produce smaller "C" than "A" or "B" classes. For example, one hundred pupils of the same age might be organised into "A" and "B" classes of about forty each and a "C" class of about twenty; the "C" class would then consist of the dull pupils (say, fifteen) and backward pupils.

Two-form entry schools might similarly be organised to produce a larger "A" than "B" class; even so, the "B" class would contain average as well as dull children, but these average children would need educational programmes more akin to those of the dull than to those of the pupils in the "A" class.

B. In Schools of between One-form and Two-form Entry

Between one-form entry and two-form entry it will be well to form one main stream and one or more "remove" classes (according to actual roll and accommodation) in which the dull will follow special programmes of work.

C. In Schools of One-form Entry

The basic organisation in these schools will result in classes containing dull, average, and bright children of the same age. Clearly, the disparity between the extremes of attainment are bound to widen from year to year for each group of pupils forming a class. It follows, therefore, that even if the general techniques of organisation within the class are such as to satisfy the needs of the average and bright pupils as well as the dull, the amount of formal class instruction will diminish from year to year, while the amount of group and individual teaching will tend to increase. In other words, if the teacher adopts a procedure in which individual teaching, group-teaching, and class-teaching are all employed, the need for the first and second of these will increase as time goes on.

D. In Schools of less than One-form Entry

Schools of less than one-form entry present similar problems in a more acute form; not only are there dull and bright children in the same class, but also children of different ages.

It will be well to consider the problems common to all schools of

one-form entry and less in the matter of organisation within the class. The implications of this book may be summarised thus: while there are certain lessons (e.g. Art, Craft, P.T., Music, and Nature Study) in which it is not necessary or desirable to treat the dull exceptionally because they are dull, there are also subjects (e.g. the 3-Rs) in which it is essential to teach and provide work for the dull differently; and others in which it may sometimes be possible to conduct the work of the class as a unit (e.g. Geography, History).

The teacher's problem is twofold: to plan a progression of work for each pupil in the class (this will usually be done by grouping together pupils having similar educational needs and planning a course for each group), and, also, to programme the work to distribute her teaching power fairly and efficiently among the pupils, i.e. to devise a suitable time-table.

The time-table is dependent upon so many factors, and circumstances which vary from school to school, that it cannot be idealised or standardised. In general, the teacher will have to choose between time-tabling for all children to be doing the same subject at the same time—in which case she will be very busy indeed in 3-R lessons, or time-tabling differently for different groups within the class—in which case the pupils would take some subjects at the same time (e.g. P.T., Music), while at other times there might be two, three, or four subjects going on in different parts of the room.

The 3-R subjects make the heaviest demand on the resources of the teacher, whatever type of class is being considered. It will be most convenient to regard the class as a number of groups of pupils, the children in each group being at about the same level of attainment. The personnel of the groups may be different for Number work, Reading work, and Language work. Each group will work at different paces, and within the one with which this book is concerned, viz. the group of dull children (which will usually have the same personnel for all aspects of 3-R work), it will normally be found that each pupil will need individual treatment. Thus, while the teacher may be said to have to share herself among three or four groups at a time, she will have to find time for individual tuition within one of them—the dull group. The size of the class will influence the situation. If it is too large, she will be unable to cope with the problem notwithstanding her ingenuity in planning. What is meant by "too large" cannot be generalised in a formula; it has to be defined by reference also to the age-range of the class. (The

ability-range is assumed to be the maximum in the schools we are now considering, viz. one-form entry and less.)

History, Geography, Nature Study, Religious Instruction, Music will require "group" work predominantly. The "group" will usually consist of pupils of the same age, since there must be a progressive sequence of work. How are the dull pupils to be allocated to groups? Should each age-group contain dull pupils, or should all the dull pupils, regardless of age, be brought together in a special group? Their chief disabilities are that they cannot comprehend orally to the same extent as the others; they cannot read with comprehension sufficiently to use books suitable for the others, and they cannot write with confidence or fluency. For these reasons it is desirable not to legislate rigidly for them in these lessons. Sometimes they may be given practical jobs to do, sometimes a simple assignment involving easy reading, writing, and illustration, and sometimes they might be more profitably employed doing work of their own unrelated to that of the other groups. What should obviously be avoided at all costs is that they be left with nothing to do.

We now turn to particular kinds of classes:

1. THE ALL-AGE-RANGE* CLASS AND THE INFANT/JUNIOR CLASS

This rarely exceeds twenty. The teaching is essentially by individual tuition, and the dull pupil, like every other, should have his own course. It will be advisable to frame three time-tables mutually compatible, one for the infants, one for the juniors, and one for the seniors, and then plan the work by individual assignments.

2. IN THE TWO-CLASS SCHOOL (which is not an infant school) there will be either—

- (i) an infant class and a junior class
- or ~~if~~ (ii) an infant-and-lower-junior class and an upper-junior-and-senior class.

Again, each class will rarely exceed twenty-two or twenty-three, and the techniques of individual tuition will be appropriate. The dull pupils may be given individual programmes of work, and the teacher has a fair prospect of providing adequately for them. Her problem is rather to keep average and bright pupils fully stretched.

* As a result of the issue of Ministry of Education Circular 283, the Cheshire Education Authority hopes to effect reorganisation of the all-age primary schools in its rural areas by September 1959.

3. *THE THREE-CLASS SCHOOL*, if it is not an infant school, will have a class organisation of one of the following kinds:
 - (i) one infant, one junior, and one senior class
 - or—
 - (ii) one infant, one transition, and one junior class
 - or—
 - (iii) three junior classes.
4. *THE FOUR-CLASS SCHOOL*, if neither infant nor junior, will have an organisation of one of the following kinds:
 - (a) one infant, one transition, one upper junior, one senior;
 - (b) two infant, two junior (each of two-year range);
 - (c) two junior, two senior (each of two-year range).
5. *THE FIVE-CLASS SCHOOL*, if neither infant nor junior, will have an organisation of one of the following kinds:
 - (a) one infant, two junior (each of two-year range), one of seniors and juniors, and one senior (of three-year range);
 - (b) two infant, one transition, two junior (each of two-year range);
 - (c) three junior, two senior (each of two-year range).
6. *THE SIX-CLASS SCHOOL*, if neither junior nor senior, will have an organisation of one of the following kinds:
 - (a) two infant, two junior, two senior (each of two-year range);
 - (b) three infant (one per age group), three junior (each of two-year range);
 - (c) three junior, three senior (each of two-year range).

Summarising the foregoing, we have the following kinds of class, other than that of the one-year age-range, and other than senior (not relevant to this book):

Infants of two-year range.

Infants of three-year range.

Infant and lower-junior of four- or five-year range.

All-age-range and infant-junior class of seven-year range.

Junior of four-year range.

Junior of three-year range.

Junior of two-year range.

Upper-junior and senior of six-year range.

Transition of two-year range.

Normally, the sizes of the classes may be expected to vary from a maximum of twenty where the age-range is very great, to a maximum of thirty-five where it is of two years. Except where there is a shortage of accommodation, the actual sizes of the classes are normally less than these figures. Where the age-range of the class is one year, its size may approach forty, or, again, if the accommodation dictates it, the class may exceed that figure.

By careful planning and time-tabling the requirements of the dull pupil may be fairly met provided the number of dull pupils does not vary considerably from the average three out of twenty, and provided also that the staffing of the school is stable (i.e. not upset by absences of teachers) and the attendance of pupils is steady.

Conclusion

The organisation of the school and of the class cannot be successful without the systematic compilation of records of ground covered, attainments achieved, and progress made. Although the point has been made previously, it cannot be over-emphasised. As far as the dull pupil is concerned, he should be able to detect visible progress in his work-books and folders, and should also feel that he is advancing in the school. His teacher can encourage this development of self-esteem by arranging for him to log what he does—for example, by ticking off items on his "assignment" list or card. As far as the teacher of the dull pupil is concerned, she will hardly be able to assess the value of her endeavour without charting in some detail what he does and how successfully he does it; much revision and frequent diagnostic work are essential. His work (particularly in the 3-Rs) requires forecasting in detail for the lessons immediately ahead and broadly for the more distant future. His changing interests and hobbies, and his social and moral development, should also be recorded continuously, so that they may point as clearly as possible to his changing needs. To obtain all the information she needs about a child, a class teacher cannot rely solely on what she learns from her own contact with him. It is important that when other teachers acquire any significant information about him, they should communicate this to the class teacher.

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THE EDUCATION OF DULL CHILDREN
AT THE PRIMARY STAGE

prepared by

CHESHIRE EDUCATION COMMITTEE

The educational problem of the backward child has received much more attention than the problem of the innately dull child. With the purpose of considering fully this latter question, the Cheshire Education Committee and Head Teachers of Cheshire Primary schools set up, in 1951, a Joint Committee to study "the educational needs of dull children at the Primary stage". Their findings are now published in *The Education of Dull Children*.

This important contribution to the subject is designed to assist those who teach (or may teach) such children. The book covers the teaching of English, arithmetic, arts and crafts, history, geography, music, and nature study, in separate chapters; particular attention is paid also to religious instruction, physical education, and social training. Each subject is considered in detail, comprehensive book lists are given, and practical suggestions made for the teaching methods required in each case. The final chapter discusses the problems of organisation—how the dull child can be assimilated to his best educational advantage into the various types of Primary school.

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